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2135-2f



Circuit Court of the United States.

MASSACHUSETTS DISTRICT.

IN EQUITY.

ROLLIN WHITE ET ALS,

COMPLAINANTS,

vs.

ETHAN ALLEN ET AL,

RESPONDENTS.

For Complainants.

E. W. STOUGHTON, C. M. KELLER, E. F. HODGES.

For Respondents.

B. R. CURTIS, CAUSTEN BROWNE.

BOSTON:

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(166 1867)

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IN EQUITY.

To the Honorable the Justices of the Circuit Court of the United States for the First Circuit, within and for the District of Massachusetts, sitting in Equity.

Rollin White, Horace Smith and Daniel B. Wesson, citizens of the United States, bring this their bill against Ethan Allen and Thomas P. Wheelock, both of Worcester, in said District.

And thereupon your orators complain and say that heretofore, and before the 3d day of April, 1855, your orator, the said Rollin White, being then a citizen of the United States, was the original and first inventor or discoverer of certain new and useful IMPROVEMENTS IN REPEATING FIRE-ARMS, that being such inventor, your orator, the said White, made application, in writing, to the Commissioner of Patents of the United States, for the granting of Letters Patent for said improvements, and duly swore to the specification for that purpose; that the said improvements were not, nor was either of them at the time of the said application, in public use or on sale with the consent or allowance of your orator, the said White, as the inventor or discoverer thereof, contrary to the provisions of the Statutes of the United States, in such case made and provided, and was not, nor was either of the same known or used by others anterior to the invention or discovery thereof by your orator, the said White; that your orator, the said White, duly complied in all respects with all the necessary conditions and requirements of the Statutes of the United States, in such case made and provided. prior to

the granting of the Letters Patent hereinafter mentioned; that on the third day of April, 1855, Letters Patent of the United States, bearing date on that day, were issued to your orator, the said White, according to law, whereby there was granted to him, his heirs, administrators, or assigns, for the term of fourteen years, from the said third day of April, 1855, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the Fire-Arm and improvements aforesaid, a description whereof was given in the words of your orator, the said White, in the schedule annexed to the said Letters Patent, and was made part of the same; that the said Letters Patent were issued in the name of the United States of America, and were sealed with the seal of the Patent Office of the United States, and were signed by the Secretary of the Interior, and were countersigned by the acting Commissioner of Patents, and were issued and delivered to your orator, the said White; that before your orator, the said White, obtained the said Letters Patent, he did, in accordance with the requirements of the Statutes in that behalf, deliver to the Commissioner of Patents of the United States a written description of the said invention, and of the manner and process of making, constructing, and using the same, and specified and pointed out the part improvement or combination which your orator, the said White, claimed as his invention or discovery—and did accompany the said description with drawings and models of the said invention or improvements, which said description was signed and sworn to by your orator, the said White, and attested by two witnesses, and filed in the said Patent Office; and your orators further show unto your Honors, that a copy of the said Letters Patent, and of the said schedule annexed thereto as aforesaid, are hereunto annexed and marked A, and which your orators pray may be deemed and taken as a part of this their bill, and to the originals of which now in your orators' possession, and ready to be produced, they crave leave to refer.

And your orators further show unto your Honors that heretofore and on the seventeenth day of November, 1856, your orators, the said Rollin White, of the one part, and the said Horace Smith and Daniel B. Wesson, of the other part, did make and execute, sign, seal and deliver each unto the other, for and upon the considerations therein mentioned,

an agreement in duplicate, a copy whereof is hereunto annexed, marked B, and which your orators pray may be deemed and taken as a part of this their bill of complaint; and to the originals of which, now in their possession, and duly recorded in the Patent Office, on the fourteenth day of February, 1857, and ready to be produced, they crave leave to refer.

And your orators further show unto your Honors that your orators, the said Smith and Wesson, have, ever since the date of the said agreement, been and now are entitled to all the rights, interests and privileges thereby secured unto them in and to the said invention and improvement in the said agreement particularly set forth; and are, and ever since the date thereof have been, by reason of the performance by them of all the conditions and undertakings on their part to be performed, entitled to the exclusive use of the said improvement, in the said agreement particularly specified, as conveyed unto your orators, the said Smith and Wesson.

And your orators further show unto your Honors that the said improvements, and each of them so patented as aforesaid unto your orator, the said White, are, and that each of them is, and especially that the improvement so conveyed as aforesaid unto the said Smith and Wesson, is of very great value and importance, and that the same are, and especially that conveyed as aforesaid is, capable of being used in pistols and other fire-arms to very great advantage, and that the same have been, and especially the said improvement so conveyed as aforesaid, extensively introduced into public use; and that the public generally have acquiesced in your orators' exclusive right to the same; and your orators, the said Smith and Wesson, would, but for the wrongful acts and doings of the said defendants, and others acting in concert with them, have made large gains, profits and advantages from the manufacture, use and sale of the said improvement, so conveyed unto them as aforesaid in and by the said agreement.

And your orators further show unto your Honors that the validity of the said Letters Patent has been fully established by the judgment and decree of the Honorable Circuit Court of the United States for the Second Circuit and Southern District of New York, at the October term

of said Court, 1862, in a bill in equity founded thereon, and then duly pending before said Court, wherein your orators were complainants, and Herman Boker, Henry Boker, Jr., and Herman Funke were defendants, after full hearing of the parties on the pleadings, and proofs and argument of their respective counsel, and due consideration thereof; whereupon it was adjudged and decreed by the Court that the said Rollin White was the original and first inventor of the improvements patented as aforesaid unto him, and that the said Letters Patent were good and valid, and that the said defendants in that suit had infringed the said Letters Patent by the manufacture and sale of repeating pistols and fire-arms constructed by extending the chambers of the said cylinder right through the rear thereof, for the purpose of loading or charging the same in the rear; and it was also adjudged and decreed by the said Court that your orators recover against the said defendants in that suit all such profits and advantages as they had made or derived by the manufacture, use, or sale of the improvements aforesaid; and that your orators were entitled to have a perpetual injunction to restrain the said defendants therein from the further manufacture, use, or sale of the said improvement; whereupon the said injunction was duly issued, which said decree and injunction still remain in full force.

And your orators further show unto your Honors, upon information and belief, that the said defendants,

well knowing the premises and the rights and privileges secured unto your orators, as aforesaid, but contriving to injure your orators, and to deprive them of the profits, benefits and advantages which might and otherwise would have accrued to them, at Worcester, aforesaid, and within the said District of Massachusetts, and without the license or permission of your orators, or either of them, *they* the said *defendants* have ever since about the first day of January, A. D., 1858, unlawfully and wrongfully made, or caused to be made, and sold, or caused to be sold, and are now unlawfully and wrongfully selling large quantities, that is to say, about twenty-five thousand pistols and revolving Fire-Arms, each and all containing the said improvement, conveyed as

aforesaid by said agreement unto your orators, the said Smith and Wesson; and consisting, as therein and in the said schedule set forth, in extending the chambers through the rear of the cylinder for the purpose of loading them at the breach from behind, either by hand or by self-acting chargers from a magazine placed in rear of said cylinder, the exclusive right to which improvement is secured unto your orators, the said Smith and Wesson, as herein before set forth, and which said unlawful making, use, and sale by the *defendants*, as aforesaid, is in violation and infringement of your orators, the said Smith and Wesson's rights and privileges; and that the said *defendants* have derived and received, and are still deriving and receiving, from such manufacture and sale great gains and profits, but to what amount your orators are ignorant, and can not set forth; but your orators believe the same to be of about the full sum of fifty thousand dollars, and so charge the fact to be, and pray that the *defendants* may be required to make a disclosure of all such gains and profits.

And your orators in like manner aver, that the *defendants*, though requested to desist from such unlawful making and sale, and to pay your orators, the said Smith and Wesson, such gains and profits as the said *defendants* have actually made, *refuse* so to do; by means whereof your orators are greatly injured, and are deprived and prevented, and especially the said Smith and Wesson, from receiving the gains and profits to which they are lawfully entitled, from the exclusive rights and privileges so granted and secured unto them, as aforesaid, and which they would have derived and acquired but for the said wrongful acts of the said *defendants*.

And your orators pray that the said *defendants* may be compelled by a decree of this Court to account for and pay over unto your orators, the said Smith and Wesson, all such gains and profits as have accrued or arisen to, or been earned or received by the said *defendants*, and all such gains and profits as have been received, or to which they may be entitled, by reason of such manufacture or sale by them of the said pistols and revolving fire-arms manufactured containing the improvement, the exclusive right to which was, as aforesaid, conveyed unto the said Smith and Wesson, by the said agreement, and all such gains and

profits as your orators would have received but for the said wrongful acts and doings of the said *defendants*.

And the said *defendants*, and their attorneys, solicitors, clerks, servants, agents, and workmen, may be perpetually enjoined and restrained by the decree of this Court, from directly or indirectly making or causing to be made, or using or causing to be used, or vending to others to be used in any manner, any revolving or repeating fire-arms containing or embodying the said improvement granted by said Letters Patent unto your orator, the said White, and by him conveyed as aforesaid unto your orators, the said Smith and Wesson, in and by the said agreement, and from infringing upon or violating the said Letters Patent by the use or sale of the said improvement in any way whatsoever; and that all such infringing revolving or repeating fire-arms may be forthwith destroyed or delivered up to your orators; and that the said *defendants* may be decreed to pay the costs of this suit, and that your orators may have such other relief as the equity of the case may require, and as to your Honor may seem meet.

To the end, therefore, that the said *defendants* may, if they can show why your orators should not have the relief hereby prayed, and may full, true, direct, and perfect answer make, according to the best of their, and each of their, knowledge, remembrance, information and belief, to the several matters hereinbefore averred and set forth as fully and particularly as if the same were here repeated paragraph by paragraph, and they thereunto severally and specifically interrogated.

May it please your Honors to grant to your orators a writ of subpœna, *ad respondendum*, issuing out of and under the seal of this Honorable Court, directed to the said *defendants* commanding them, and each of them, to be and appear and make answer unto this bill of complaint, and to perform and abide by such order and decree herein as to this Court may seem required by the principles of equity and good conscience.

May it also please your Honors to grant to your orators a provisional or preliminary injunction, issuing out of and under the seal of this Honorable Court, enjoining and restraining the *defendants*, and their and each

of their, attorneys, solicitors, clerks, servants, workmen and agents to the same purport, tenor and effect hereinbefore prayed for in regard to said perpetual injunction.

ROLLIN WHITE,
HORACE SMITH,
D. B. WESSON.

And your orators will ever pray, &c.

By E. F. HODGES,
Solicitor for Complainants.

UNITED STATES OF AMERICA, }
DISTRICT OF MASSACHUSETTS. } *ss.*

On this second day of January, 1863, before me came Daniel B. Wesson, to me personally known, one of the *complainants* in the foregoing bill of complaint named, who being by me duly sworn, did depose and say that he had read the said bill subscribed by the complainant, and *knew* the contents thereof, and that the same is true of his own knowledge, except as to the matters which are therein stated on information and belief. And as to those matters he *believes* it to be true.

WM. L. SMITH, *Not. Pub.*

No. 12,649.

THE UNITED STATES OF AMERICA.

To all to whom these Letters Patent shall come :

WHEREAS, Rollin White, of Hartford, Connecticut, has alleged that he has invented a new and useful improved Repeating Fire-Arm, which he states has not been known or used before his application; has made oath that he is a citizen of the United States; that he does verily believe that he is the original and first inventor or discoverer of the said fire-arm, and that the same hath not, to the best of his knowledge and belief, been previously known or used; has paid into the treasury of the United States the sum of thirty dollars, and presented a petition to the Commissioner of Patents, signifying a desire of obtaining an exclusive property in the said fire-arm, and praying that a patent may be granted for that purpose :

These are, therefore, to grant according to law, to the said Rollin White, his heirs, administrators or assigns, for the term of fourteen years from the third day of April, one thousand eight hundred and fifty-five, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said fire-arm, a description whereof is given in the words of the said White, in the schedule hereunto annexed, and is made part of these presents.

In testimony whereof, I have caused these letters to be made patent, and the seal of the Patent office has been hereunto affixed.

Given under my hand at the City of Washington, this third day of April, in the year of our Lord one thousand eight hundred [L. s.] and fifty-five, and of the Independence of the United States of America the seventy-ninth.

ROBERT M'CLELLAND,

Secretary of the Interior.

*Countersigned and sealed with the }
Seal of the Patent Office. }*

S. T. SHUGERT,

Acting Commissioner of Patents.

THE SCHEDULE REFERRED TO IN THESE LETTERS PATENT
AND MAKING PART OF THE SAME.

To all whom it may concern :

BE IT KNOWN, That I, Rollin White, of the city and county of Hartford and State of Connecticut, have invented certain new and useful improvements in Repeating Fire-Arms, and I do hereby declare that the following is a full, clear and exact description of the same, reference being had to the accompanying drawings forming part of this specification, in which

Figure 1 is a longitudinal section of a pistol constructed according to my invention.

Figure 2 a top view of the same, with the head of the hammer cut off to show the parts below it.

Figure 3 is a central section of the rotating chambered cylinder.

Figure 4 is a transverse section taken in the line *xx* of Figures 1 and 2, looking from the back towards the muzzle.

Figure 5 is a transverse section taken directly in front of the chambered cylinder toward the muzzle.

Figure 6 is a section of the magazine and charger. Similar letters of reference indicate corresponding parts in the several figures.

This invention, which, to distinguish it from several other of my improvements in fire-arms, I will denominate No. 4, relates to fire-arms having the rotating many-chambered cylinder.

It consists, firstly, in extending the chambers through the rear of the cylinder for the purpose of loading them at the breach from behind, either by hand or by a self-acting charger from a magazine placed in the rear of the cylinder.

It consists, secondly, in a guard so applied in front of the chambered cylinder as to receive or stop the balls, but to allow the escape of the exploded powder, if the charge in any of the chambers not in line with the barrel should be exploded by lateral fire or any accident.

It consists, thirdly, in the combination of a charging piston with the hammer in such a way that by the drawing back or raising of the ham-

mer to cock the lock, the said piston is caused to drive a cartridge into one of the chambers from a magazine placed behind it. This improvement is applicable to other kinds of breech-loading fire-arms besides those employing a rotating chambered cylinder.

It consists, fourthly, in an attachment to the hammer for the purpose of closing the magazine perfectly during the discharge of the piece, to protect the charges in the magazine from the effects of lateral fire. *A* is the rotating chambered cylinder, having the chambers, *a a*, bored right through it and made slightly conical with the smallest part in front, in order that a cartridge may be inserted easily at the back, but that the ball may fit tight when it arrives in its place, and not go through till the charge explodes. *a'* is the pin upon which the breech rotates, the rotation being effected in a way not necessary to be here explained, by a tooth attached to the trigger. *L*, see Figure 4, is a recess made in the side of the stock, *M*, to afford sufficient room in rear of the cylinder opposite one of the chambers, *a a*, for the insertion of a charge by hand, at the rear opening of the said chamber. *p*, Figure 1, is a fixed breech-piece arranged opposite the barrel, behind the cylinder, to serve as a breech to that chamber which happens to be in line with the barrel. *B* is the guard for the purpose of receiving or stopping the balls in case of accidental explosion in any chamber not in line with the barrel. It consists of a stout metal plate, made all in one piece with or firmly secured to the straps *b* and *c*, which connect the barrel *c'* with the recoil shield *D*, and covering the whole front of the rotating cylinder. I prefer to arrange this guard at a short distance from the cylinder, so as to leave a space, *d*, shown in Figures 1 and 2, for the escape of the exploded powder in front of the cylinder, and to make a recess, *e*, see Figures 1 and 5, in its face, into which the ball or balls from any or all of the chambers not in line with the barrel may enter, when the charges explode, to allow the free escape of powder.

The guard may, however, be made without the above-named recess in its face, and may fit close to the front of the cylinder if a free escape for the exploded powder is provided for by leaving suitable open space in the rear. *E* is the magazine, which consists of a box in which the cartridges are laid side by side, parallel with the bore of the barrel, to

be forced, one by one, sideways, by a spring, *g*, or other means, into the charging-tube *F*, which stands behind and in line with one of the chambers of the cylinder. The charging piston, *G*, which fits the tube, *F*, is furnished with a rack, *f*, gearing with a toothed wheel, *g*, see Figure 6, which is fast on the same spindle or arbor *h*, as another toothed wheel, *i*, which gears with a third toothed wheel, *j*, secured firmly to the tumbler, *k*, of the hammer, *l*. The raising of the hammer to cock the lock gives the wheels, *j*, *i*, *g*, such a movement as to throw forward the piston, *G*, to drive a cartridge, which has been supplied to the tube from the magazine, into the chamber of the cylinder with which it is in line. The falling of the hammer draws back the piston far enough to allow another cartridge to enter the charging tube from the magazine. *m* is the attachment to the hammer for the purpose of closing the mouth of the magazine during the discharge. This attachment is only shown in Figure 6, being cut away in Figure 1, which only shows the hammer proper. It may be made all in one piece of metal with the hammer. Its face, *n*, forms an arc concentric with the arbor or spindle, *o*, of the hammer, or very slightly eccentric thereto; and the exterior of the mouth of the magazine is made of a corresponding form in order that they may fit close together. The face, *n*, may be covered with an elastic packing to close the mouth of the magazine more securely. As the hammer falls, the attachment covers the mouth of the magazine before the priming is exploded, and thus serves as an efficient protection to the magazine.

What I claim as my invention, and desire to secure by Letters Patent, is:—1st, Extending the chambers, *a a*, of the rotating cylinder, *A*, right through the rear of the said cylinder, for the purpose of enabling the said chamber to be charged at the rear either by hand or by a self-acting charger, substantially as described. 2d. The application of a guard to cover the front of all the chambers of the cylinder which are not in line with the barrel, or any number thereof which may have been loaded, combined with the provision of a proper space for the lateral escape of the exploded powder, substantially as herein described, whether the said space be between the cylinder and guard or in rear of the cylinder, and whether the said guard be constructed

with a recess, *e*, to receive the balls, or be of such form as merely to stop the balls. 3d. Combining a charging piston, *G*, with the hammer by means of gearing substantially as described, or by the equivalent thereof, in such a manner that by raising the hammer to cock the lock, the piston is moved toward the chambered cylinder to force a cartridge from the magazine into one of the chambers thereof, and by the falling of the hammer the piston is withdrawn to allow a new cartridge to be supplied ready to be driven into the next chamber of the cylinder as the hammer is again raised to cock the piece, as herein fully set forth. 4th. Furnishing the hammer with an attachment, *m*, by which in the act of falling it may close the mouth of the magazine, substantially as herein described, before exploding the priming, and thus protect the charges within the magazine from ignition.

ROLLIN WHITE.

Witnesses :

JOS. B. HAWLEY,

HENRY L. PRATT.

B

Whereas, Rollin White, of the town of Hartford, county of Hartford, and State of Connecticut, did obtain Letters Patent of the United States for a "certain improvement in Repeating Fire-Arms," which Letters Patent bear date the third day of April, A. D. 1855, and to which Letters Patent reference is herein had. Now this agreement by and between the said Rollin White, party of the first part, and Horace Smith, of the town of Springfield, county of Hampden, and commonwealth of Massachusetts, and Daniel B. Wesson, of the town and county of New Haven, and said State of Connecticut, parties of the second part, witnesseth,

That the said White, in consideration of the agreements hereinafter entered into by the said Smith and Wesson, hereby sells, assigns, and sets over, and has sold, assigned, and set over unto the said Smith and Wesson, the sole and exclusive right to use that portion of said patent described in the schedule attached to said patent in the following

words: "Consisting in extending the chambers through the rear of the cylinder, for the purpose of loading them at the breech from behind, either by hand or by self-acting chargers, from a magazine placed in rear of said cylinder," and further described in the claims of the patentee, embraced in said schedule, being the first claim of said patentee, in these words: "In extending the chambers *a a*, of the rotating cylinder *A*, right through the rear of said cylinder, for the purpose of enabling the said chambers to be charged at the rear, either by hand or by a self-acting charger, substantially as described," and that portion only of said patent, the said use of said patent to be held and enjoyed by the said Smith and Wesson, or either of them, for his or their own use only, and not to be assigned or sold by them, to the full end of the term for which said Letters Patent are or may be granted, as fully and entirely as the same would have been held and enjoyed by said White, had this transfer of the use of said portion of said patent not been made.

And the said White hereby covenants to and with said Smith and Wesson that he will, if judged expedient by the said Smith and Wesson, apply for and procure, if possible, an extension or renewal of said patent, at the termination of the term of years for which the same is granted, and pay all expenses of granting such renewal, and also that he will defend against and defray the expenses of any infringements of the said patent, so far as the portion the use of which is hereby transferred be infringed. It being hereby understood and agreed that in case of the deaths of the said Smith and Wesson before the end of the term for which said patent is granted, or in case of the abandonment on the part of said Smith and Wesson, or the survivor of them, of the use of that portion, the use of which is hereby assigned for a longer period than one year, without the written consent of the said White, then in each of the said cases this contract is at an end, and the exclusive use of the same reverts to the said White, or his legal representatives, or administrators, or executors, but in such event the five hundred dollars, hereinafter specified as part of the consideration to the said White, or any portion of the consideration-money before that time paid, is not to be repaid by the said White to the said Smith and Wesson, or their representatives, or executors, or administrators.

And the said Smith and Wesson, in consideration of the agreements of the said White, hereby agree, and covenant, and bind themselves to and with the said White, his heirs, executors and administrators, to pay to him the sum of five hundred dollars in cash, and furthermore to pay him the price or sum of twenty-five cents upon each and every arm to which said improvement or portion of said patent heretofore specified is applied, the amount of said bonus of twenty-five cents upon each arm to which said portion of said patent is applied to be paid to the said White, or his heirs, executors or administrators, semi-annually—that is to say, at the end of each successive six months from the date of this instrument; and the said Smith and Wesson hereby covenant and engage to render to the said White just, true and faithful accounts of the numbers of arms to which said portion of said improvement is applied, and the amount of each semi-annual payment at the end of each successive six months.

And in case the said semi-annual payment is not made by the said Smith and Wesson, or the survivor of them, to the said White, or his heirs or administrators, within six months after the same falls due and is payable, then this contract is at an end, and thenceforth is of no force and effect, and the exclusive use of the said portion hereby conveyed reverts to and vests in the said White, his heirs, representatives, administrators, or executors, as fully as if this contract had not been made. And the said White hereby acknowledges the receipt of said five hundred dollars.

It being expressly understood that the above instrument is not an assignment by the said White of the said patent or patent-right, but of the use only of that portion of said patent or patent-right hereinbefore specified.

In witness whereof, the said parties have hereunto set their hands and seals, as to another duplicate copy of the same tenor and date, this the seventeenth day of November, A. D. 1856.

ROLLIN WHITE,	[L.S.]
HORACE SMITH,	[L.S.]
DANIEL B. WESSON.	[L.S.]

In presence of

N. SHIPMAN,
JOHN C. PARSONS.

A N S W E R .

UNITED STATES CIRCUIT COURT, }
 District of Massachusetts. }

OCTOBER TERM, 1862.

ROLLIN WHITE AND OTHERS *vs.* ETHAN ALLEN AND OTHERS.

In Equity.

The joint and several answer of Ethan Allen and Thomas P. Wheelock to the bill of complaint of Rollin White, Horace Smith and Daniel B. Wesson.

These defendants, reserving all exception to the errors and imperfections of the said bill, for answer thereto, or to so much thereof as they are advised that they ought to answer, say :

They admit that Letters Patent of the United States were granted to said Rollin White on the 3d day of April, 1855, as stated in the bill of complaint, for certain improvements in repeating fire-arms; but they deny, upon information and belief, that said White was the first and original inventor thereof.

And these defendants further answering say that they do not know and are not informed, save by the bill of complaint, whether the agreement in duplicate therein alleged, dated 17th November, 1856, between the said White and the said Smith and Wesson, was made, executed, signed, sealed, delivered or recorded, as alleged, or upon what considerations, if any, or whether the said Smith and Wesson have performed the conditions or undertakings therein on their part, if any, and leave the complainants to prove the same.

And these defendants admit that repeating pistols and fire-arms, having the chambers of the cylinder extended right through the rear for the purpose of loading or charging at the rear, are extensively in use and have been so for many years, long before the pretended invention thereof by the said Rollin White; but they deny that the public generally have acquiesced in any claim of exclusive right thereto on the part of the said White, or Smith, or Wesson, and especially they deny that they, by themselves or in concert with any others, have committed any wrongful acts in the premises to the injury, as pretended, of the complainants or either of them.

And these defendants further answering say, on information and belief that the things attempted to be patented by the said alleged Letters Patent to Rollin White, and by him conveyed to said Smith and Wesson or substantial and material parts thereof, claimed therein as new, are described in the following public works, and patented by the following persons, in and by the following patents anterior to the supposed discovery thereof by said Rollin White, namely:

Letters Patent granted in England to John Henry Johnson for improvements in revolving fire-arms; Patent sealed April 17th, 1854; specification enrolled October 27th, 1854, and set forth in the 67th vol., No. 955, of Specifications of English Patents.

Letters Patent granted in France to William Elliott Lee, and set forth in the 15th vol., page 316, plate 24 of the Brevets d' Invention.

Letters Patent granted in France to Albert Henri Renette, and set forth in the 42d vol., page 188, plate 22, of the Brevets d' Invention.

Letters Patent granted in France to Pierre Chire, June 25th, 1836, and set forth in vol. 45, plate 3, of the Brevets d' Invention.

Letters Patent granted in France to Henri and Pierre Le Page, July 13th, 1832, and set forth in vol. 48, page 20, plate 2, of the Brevets d' Invention.

Letters Patent granted in France to Joseph Jarre fils, September 2d, 1840, and set forth in vol. 38, page 386, plate 28, of the Brevets d' Invention.

Letters Patent granted in France to Joseph Francois Prelat, May 22, 1840, and set forth in vol. 73, page 474, plate 40, of the Brevets d' Invention.

Letters Patent granted in France to Eugene Gabriel Le Faucheur, February 7th, 1846, and certificates of addition thereto granted 7th February, 1846, and 25th May, 1846, 13th August, 1847, 12th November, 1847, 2d February, 1848 and the 25th August, 1849.

Letters Patent granted in Belgium to Guillaume Marriette, April 17th, 1840.

Also, Letters Patent granted in Belgium to Sieurs Hertog and Devos, May 25th, 1853.

Also Letters Patent of the United States granted unto Samuel Colt, February 25th, 1836, for improvements in revolving fire-arms.

Also Letters Patent of the United States granted unto Christian Sharp, September 12th, 1848, for improvements in fire-arms.

Also Letters Patent of the United States granted to Ethan Allen dated 1845.

And these defendants further answering, say, on information and belief, that anterior to the supposed discovery thereof by said Rollin White, the things alleged to be patented in said alleged Letters Patent or substantial and material parts thereof, claimed therein as new, were previously invented by and known to and used by the following named persons, who reside in the following places, and by other persons, and were so known and used by such persons, and by other persons at the places hereinafter respectively specified, and at other places in the United States, namely:

C. H. Sheehan and Robert Sheehan, Wm. H. Onion, Edmund Lamarche, Louis Struller, Hyacinthe Lamarche and Lewis McMuller, who now reside at Brooklyn, in the State of New York, known and used by them at said Brooklyn and at New York city; Francis Reynolds, Albert Cooper, Charles H. Pond, B. I. Hart, Wm. J. Syms, Henry Boker, A. Boker, John J. Spies, Joseph Cooper, Marcellus Hartley, Malcolm Graham, C. S. Barnes, and Charles Folsom, H. Bueck, A. G. Genez, George G. Moore, Henry T. Moore and Anson Boker, Jr., who now reside at New York city, known and used by them at New York city; Philip Muller, now deceased, known and used by him at New York city; Edmund Wirths, who now resides at Staten Island, N. Y., known and used by him at the city of New York; Jacob R. Schuyler, who now

resides at Jersey City, New Jersey; Henry Tomes and Wm. Brier, who now reside in the city of New York, known and used by them in the city of New York; Jubal Harrington, who now resides at Springfield, California, known and used by him at Worcester, Massachusetts; J. H. Benchley, who now resides at said Worcester, Massachusetts, known and used by him at Milbury, in said State; Thomas P. Wheelock, who now resides at said Worcester, known and used by him at Grafton, Massachusetts; J. H. Merrill, who now resides at Baltimore, Maryland, known and used by him at said Baltimore; Benjamin Kittridge, who now resides at Cincinnati, Ohio, known and used by him in Cincinnati; Kittridge and Folsom, who now do business at New Orleans, Louisiana, known and used by them at said New Orleans; James Warner, who now resides at Springfield, Massachusetts, known and used by him at said Springfield; Thomas K. Bacon, who now resides at Norwich, Connecticut, known and used by him at said Norwich; William Tibbets, who now resides at South Coventry, Massachusetts, known and used by him at said South Coventry; J. P. Lovell, who now resides at East Weymouth, Massachusetts; William Reed and William Reed, Jr., who now reside at Cambridge, in said State; Joab Hapgood, who now resides at Shrewsbury, in said State, known and used by him at Boston, in said State; Christian Sharp, John P. Lower, W. H. Curtiss and Wm. Kennedy, who now reside at Philadelphia, Pennsylvania, known and used by them at said Philadelphia; also known and used by Ethan Allen, one of these defendants, of and at Worcester, Massachusetts.

And these defendants further answering aver, on information and belief, that the said Jubal Harrington made and constructed, or caused to be constructed, both rifles and pistols, made substantially upon the plan described and patented by the said White's alleged invention thereof, and that the said rifles and pistols were exposed publicly, and were used and fired by many persons.

And these defendants further answering aver, on information and belief, that the things attempted to be patented by the said White, in his aforesaid Letters Patent, were in public use and on sale for more than two years before his application for a patent therefor, and with his consent and allowance.

And these defendants further answering say, upon information and belief, that the said White never at any time before the granting of his said Letters Patent, perfected or reduced to practice within the meaning and requirement of the patent law, any such improvement or invention as is now claimed by him as patentee thereof, as aforesaid, but that all said White's pretended acts of invention in respect to said patented improvement were experimental, unsuccessful and fruitless, and were abandoned accordingly.

And these defendants further answering say, that the specification and drawings making part of the said Letters Patent do not show the manner of making, constructing and using the said patented invention in such full, clear and exact terms as to enable any persons skilled in the art to which it appertains to make, construct and use the same; nor does the patentee therein explain the principle of said alleged invention, or the modes in which he has contemplated the application thereof; that it is impossible by the directions given in the said specification and drawings, and with the aid of the knowledge possessed by skillful and experienced manufacturers of fire-arms at the time of the grant of the patent, to construct a fire-arm embodying the principle or mode of operation claimed by said White as his invention, which shall be of any practical utility whatever, and which shall not be, on the contrary, pernicious and dangerous in the highest degree to persons using the same.

And these defendants further answering say they are informed and believe that a suit in equity upon said Letters Patent against Herman Boker and others was commenced and hearing had therein in the United States Circuit Court for the Southern District of New York, and resulted in a decree in favor of the complainants therein, but whether such particular matters as are alleged were therein adjudged and decreed these defendants are not advised and cannot answer; but they are informed and believe, and so aver that the defendants in said suit were by inevitable accident deprived of certain testimony material to their defence, which testimony these defendants expect to produce in this case; and they are further informed and believe that by collusion between the parties to said suit in the Southern District of New York,

no appeal has been taken or is to be taken from the decree and judgment therein so that the manifest errors thereof cannot be reviewed and corrected; for which reasons, with many others, these defendants submit that they are not in any way affected, and ought not to be in any way prejudiced by said suit in any proceedings therein.

These defendants admit that they have manufactured and sold revolving cylinder pistols, having the chambers of the cylinder bored right through to the rear, so as to be loaded at the rear, but they say that the extent of such manufacture and sale and the amount of their profits thereon are greatly exaggerated in the bill of complaint.

And these defendants deny that such pistols so made and sold by them were infringements of any valid Letters Patent held by the complainants or either of them.

Wherefore these defendants deny that the complainants are entitled to the injunction or other relief sought in their bill of complaint, and pray to be hence dismissed with their reasonable costs.

ETHAN ALLEN,

THOMAS P. WHEELOCK,

by ETHAN ALLEN.

MASSACHUSETTS DISTRICT, }

On this 26th day of March, 1863, personally appeared the above named Ethan Allen, and made oath that he is the senior partner of the firm of Allen and Wheelock, and well acquainted with the matters to which the foregoing answer relates, and that the matters and things therein contained are true as stated.

Before me,

HENRY L. HALLETT,

U. S. Commiss'r, Mass. Dist.

R E P L I C A T I O N .

UNITED STATES CIRCUIT COURT, }
 District of Massachusetts. }

OCTOBER TERM, 1862.

ROLLIN WHITE, ET AL., vs. ETHAN ALLEN, ET AL.

In Equity.

The replication of Rollin White, and others, Complainants, to the answer of Ethan Allen, and another, Respondents, to the bills of complaint of the above Complainants.

These repliants, saving and reserving to themselves all, and all manner of advantage of exception, to the manifold insufficiencies of the said answer, for replication thereunto, say: That they will aver and prove their said bill to be true, certain and sufficient in the law to be answered unto; and that the said answer of the said respondents is uncertain, untrue and insufficient to be replied unto by these repliants; without this, that any other matter or thing in the said answer contained, material or effectual in the law to be replied unto, confessed and avoided, traversed or denied, is true. All which matters and things, these repliants are and will be ready to aver and prove, as this Honorable Court shall direct; and humbly pray, as in and by their said bill they have already prayed.

R. WHITE, AND AL., per

E. F. HODGES, *Solr.*

AGREEMENT.

UNITED STATES CIRCUIT COURT, }
Massachusetts District. }

OCTOBER TERM, 1862.

R. WHITE ET AL., *vs.* E. A. PRESCOTT.

In Equity.

It is agreed that the pleadings in this cause do not differ from those in the cause of R. White et al. *vs.* E. Allen et al. in equity, pending in this court, except as to the amount of infringement alleged, and need not be printed herewith.

ALLEN & DAVIS, *for Plffs.*

OPINION AND DECREE.

The Opinion and Decree, of which the following are copies, are on file in the office of the Clerk of the Circuit Court of the United States for the Southern District of New York.

ROLLIN WHITE, AND AL., *vs.* HERMAN BOKER, AND OTHERS.

Before Judges NELSON and SMALLEY, Oct. 7, 1862.

NELSON, C. J.

The bill in this case is filed to restrain the defendants from infringing the patent of Rollin White, issued 3d April, 1855, for an improvement in REPEATING FIRE-ARMS. After describing the improvement, and the mode of constructing it, the patentee states his claim, the one in dispute, "Extending the chambers, *a, a*, of the rotating cylinder, *A*, right through the rear of the said cylinder, for the purpose of enabling the said chamber to be charged at the rear, either by hand or by a self-acting charger, substantially as described."

The description of the cylinder is as follows:—"A is a rotating chambered cylinder, having the chambers, *a, a*, bored right through it, and made slightly conical, with the smallest part in front, in order that a cartridge may be inserted easily in the back, but that the ball may fit tight when it arrives in its place, and not go through till the charge explodes."

The defendants' pistol differs from the plaintiffs' in this, that the chambers are bored cylindrical instead of conical, and a flange is used upon the cartridge, which answers the purpose of the conical chamber. It is argued that this rotating chamber is described and claimed as a whole by White, the patentee, and as the one used by the defendants

differs in respect to the form of the chamber, there is no infringement. This, we think, is a mistake. The substance of the invention is in extending the chamber through the cylinder so that it may be loaded by inserting the charge in the rear instead of the front, as heretofore. The conical form is incidental, with a view of checking the advance of the charge beyond a given point, and embraced, in contemplation of law, all the equivalents, of which the contrivance of the defendants is one; or, at most, the contrivance is but an improvement upon the invention of White, and cannot be used upon it without his assent.

There is a good deal of evidence in the case, going to the question of novelty in the improvement of the patentee. We have examined the whole of it, and are satisfied that the weight of it is decidedly with the complainants.

Decree for complainants.

(A copy,)

KENNETH G. WHITE, *Clerk*.

At a Stated Term of the Circuit Court of the United States of America, for the Southern District of New York, in the second Circuit, held at the City Hall, in the city of New York, on the 25th day of October, in the year of our Lord one thousand eight hundred and sixty-two.

Present:

The Honorable SAMUEL NELSON, an Associate Justice of the Supreme Court of the United States.

ROLLIN WHITE, HORACE SMITH, AND DANIEL B. WESSON,

vs.

HERMAN BOKER, HENRY BOKER, JR., AND HERMAN FUNKE.

This cause having been brought to a final hearing upon the pleadings and proofs, and counsel for the respective parties having been heard, and the same having been duly considered by the Court: It is found and hereby ordered, adjudged and decreed, that the Letters Patent, No.

12,649, granted unto the said Rollin White, April 3, 1855, is a good and valid patent, being the patent referred to in the complainant's bill, and that the said Rollin White was the original and first inventor of the improvement described and claimed in the said patent; and also, that the said defendants have infringed upon the said patent, and upon the exclusive rights of the complainants under the same.

And it is further ordered, adjudged and decreed, that the complainants do recover of the defendants the profits, gains and advantages which the said defendants, or any or either of them, have received or made, or which have arisen or accrued to them, or either of them, from said infringement of the said patents, by the manufacture, use or sale of the improvements described and secured by the said letters patent at any and all times since the 17th day of November, 1856.

And it is further ordered, adjudged and decreed, that the said complainants do recover of the defendants their costs and charges and disbursement in this suit, to be taxed.

And it is further ordered, adjudged and decreed, that it be referred to Kenneth G. White, one of the Masters of this Court, residing in the city of New York, to ascertain, take, and state, and report to the Court, an account of the gains, profits and advantages which the said defendants, or either of them, have received, or which have arisen or accrued to them, or either of them, from infringing the said exclusive rights of the said complainants, by the manufacture, use and sale of the said improvements patented in said letters patent, since the said 17th day of November, 1856.

And it is further ordered, adjudged and decreed, that the complainants, on such accounting, have the right to cause an examination of said defendants, and each of them, *ore tenus*, or otherwise, and also the production of their books, vouchers and documents of each of them, and that the said defendants attend for such purpose before said Master, from time to time, as said Master shall direct.

And it is also further ordered, adjudged and decreed, that a perpetual injunction be issued in this suit against the said defendants according to the prayer of the bill.

(A copy.)

KENNETH G. WHITE, *Clerk.*

TESTIMONY FOR RESPONDENTS.

DEPOSITION OF CHARLES FOLSOM.

UNITED STATES CIRCUIT COURT, }
 Massachusetts District. }

OCTOBER TERM, 1862.

ROLLIN WHITE ET ALS., in *Equity*, vs. ETHAN ALLEN ET AL.
 " " " " vs. E. A. PRESCOTT.

Charles Folsom, a witness produced by respondents, being duly sworn, doth depose and say in answer to interrogatories proposed to him by Causten Browne, Esq., Counsel for Respondents, as follows, viz:

Int. 1. What is your name, age, residence and occupation?

Ans. My name is Charles Folsom; age, 68; residence, Cambridge, Mass.; I follow literary pursuits in general.

Int. 2. State, if you please, briefly what qualifications you possess for the translation of documents in the French language, and particularly of descriptions of mechanisms in that language?

Ans. My qualifications for translating documents from the French language into English are derived from my having early studied the French language at the University; and having, as a young man, the necessity of reading and speaking it in France and other countries of Europe, both as a private man and officially in the diplomatic service of the United States, for years using it in daily intercourse, and the continued study of French literature as a general scholar. As literary superintendent of the University Press, at Cambridge, it was my duty to revise translations from the French, not only in books of literature, properly so called, but especially in the University course of mathematics, (I mean physical

science,) translated from French authors. As librarian of the Boston Athenæum for ten years I was in the habit of reading French journals and interpreting them to practical persons not much acquainted with the language, with more particular reference to patented inventions.

Int. 3. Have you made written translations of the specification and certificates of addition, exhibits in this case, which are identified each by the signature "N. Austin Parks, Examiner;" and if so, will you produce or identify such translations?

[The translations heretofore referred to being shown to the witness, he says:]

Ans. I recognize these documents as translations executed by myself from the French originals mentioned in the interrogatory.

Int. 4. Are they correct translations of such originals into the English language?

Ans. They are correct translations as nearly as the idioms of the language will allow. They are literal, with no attempt to vary the expression for the sake of elegance.

And in answer to Cross-Interrogatory proposed to him by C. M. Keller, Esq., Counsel for Complainants, deponent saith as follows, viz:

Cross-Int. 1. Looking to your translation of the certificate of addition dated February 7, 1846, and the paragraph next preceding the last, should not the expression "*comme en general aux diverses armes à feu se chargeants par la culasse*" have been rendered "as well as in general to divers fire-arms, loaded by the breech," instead of "*breech-loading fire-arms*?"

Ans. I consider the expression I have used equivalent in English to that used in the specification. If I was going to translate it *verbally* I should translate it thus, "as in general to the different fire-arms loading themselves by the breech."

And in reply to Direct Interrogatory resumed by C. Browne, Esq., Counsel for Respondents, deponent saith:

Int. 1. You say you would *verbally* render the expression "*se chargeants par la culasse*" by the words "loading themselves *by* the breech;" there being various senses or uses of the preposition "*by*" before a noun substantive, such as "*by*," meaning "*by means of*," "*by*" meaning

"juxtaposition," etcetera, etc. I will ask you to specify in what sense you use it.

Ans. I should use it in the same sense in which I should use *per anum* as contrasted with *per os*.

CHARLES FOLSOM.

Subscribed and sworn to this 10th day of April, 1863.

Before me,

N. AUSTIN PARKS, *Examiner*.

[TRANSLATION.]

COPY OF THE LEFAUCHEUX PATENT OF THE 2d OF MAY, 1845,
FOR ARRANGEMENTS OF BREECH-LOADING PISTOLS.

DESCRIPTIVE MEMOIR.

After the example of breech-loading musquets, attempts have been made to construct pistols capable of being loaded in the same manner. But, of all the methods which have been used for this purpose, there is none that does not considerably diminish the length of the barrel, by the space given to the mechanism used to effect the loading. Now, though in musquets the reduction of the length of the barrel is of little importance, the case is evidently not the same with pocket pistols, which should be made as short as possible in order not to be heavy and inconvenient.

I may add, moreover, that the contrivances proposed and actually employed hitherto to effect the vibrating movement of the barrel to and fro, so as to permit the loading, are always more or less complicated, and consequently expensive.

In relation to this subject, I have sought a method more simple and much more convenient, which takes the place, with undeniable advantage, of the different methods in use, and which, especially in its appli-

cation to pistols, that is to say, to all fire-arms with a very short barrel, is susceptible of extensive applications.

This method consists in making the barrel of the pistol turn around a fixed pivot, in such a way as to allow it to receive easily the charge and the cap which we wish to introduce into it. As it constitutes a new application, which has never been made by any one before me, especially to this sort of arms, I desire to reserve to myself the exclusive privilege of making it, by a patent of invention for fifteen years.

It will be very easy to see by the annexed drawing, the new arrangement I have conceived for accomplishing the end I have above enounced.

Fig. 1 of this drawing represents a side view of a completed pistol, made on the new plan, with a revolving barrel, and supposed to be loaded and all ready to fire.

Fig. 2 represents a similar view of the same pistol, but on the supposition that the barrel has made half a revolution [on itself] around a fixed arbor in order to be in a position to receive the charge and the cap by the breech.

Fig. 3 is a vertical section, and Fig. 4 is a view of the breech end of the barrel alone, detached from the rest of the weapon.

Figs. 5 and 6 are the details (section and front view) of the cap which is placed at the entrance of the breech of the barrel.

All these figures relative to the same object are drawn of working size.

It is seen by these figures that the barrel A of the pistol is forged with a socket B, having a cylindrical hole parallel to the bore of the barrel, which is finished off at the breech end by a lathe. It is by this socket that the barrel is united with the body of the pistol by means of a fixed stem or arbor C, which has a screw cut on its end, and which, passing through the whole length of the socket, bears on its end the thread of a screw, to receive a nut *a*, by which the barrel is held more or less tight, as is thought suitable. It is only necessary to turn this nut slightly to the right or to the left in order to loosen or tighten the barrel, and to let it turn more easily about the arbor C, without, however, having any play. A small prominence *b* is made on one side of the lock-plate D, which serves to stop the barrel at the proper point

when we wish to bring it back to its original position, Fig. 1, that it may be ready to fire.

When we wish to load the pistol, it is only necessary to turn the barrel in order to put it in the position shown in Fig. 2, and to introduce at the breech the ball and the wadding, and then a cap like that represented in the details Figs. 5 and 6, so that the fulminating part, which is to receive the stroke of the hammer F, may correspond to the small notch c, which has been made expressly for the purpose, in the breech end of the barrel.

Thus it is easily understood, that by this arrangement the loading of the pistol may be effected with extreme rapidity, with the greatest ease, and without any fear of danger; for when we do not wish to fire, it is only necessary to make the barrel turn a very little, so that, if through forgetfulness or negligence the pistol was cocked, or even if the hammer should snap, it would not strike on the cap, and consequently there would be no discharge.

The mechanism is here reduced to its greatest simplicity, gives no sort of trouble, and occupies no space injuriously detracting from the length of the barrel. We thus turn to account almost the whole length of the barrel, a circumstance which permits us to make it very short, or, if we give it the same length it has in other systems, to have a longer range and more precision.

A pistol of this kind is very easily constructed, since all that part which concerns the revolving of the barrel is finished upon a lathe, and consequently with great exactness and precision, and in a very economical way.

On account of the advantages which this arrangement of breech-loading pistols combines, by making the barrel turn about an axis parallel to itself, I apply, as I have said above, for the reservation to myself of the exclusive privilege of making it, by a patent of invention for fifteen years.

Paris, 30 April, 1845.

Signed,

LEFAUCHEUX.

Examined for annexation to the patent for fifteen years, taken out the 2 May, 1845, by the Sieur Lefauchaux.

Paris, 9 June, 1845.

For the Minister and by Delegation, the Counsellor of State, Secretary General.

Signed,

CAMILLE PAGANEL.

A TRUE COPY.

The General of Division, Director of the Imperial Conservatory of Arts and Trades, for the Director, the Engineer, Sub-Director.

[Signed]

A. TRESKA. [L. S.]

Paris, 16 July, 1862.

[TRANSLATION.]

COPY OF A CERTIFICATE OF ADDITION, DATED 7 FEBRUARY, 1846, TO THE LEFAUCHEUX PATENT OF MAY THE 2D, 1845.

DESCRIPTIVE MEMOIR.

In the description, which accompanies my first application of the 2d of May last, I set forth the new arrangements I had conceived up to that time, and had applied to breech-loading pistols. The drawing which I annexed to that memoir shows sufficiently the construction of my system for a pistol with one barrel.

Since that time I have been occupied in effecting new modifications of my invention, which principally relate to pistols with several barrels. These modifications, which constitute an important improvement in the construction and use of these weapons, now form the subject of a new application for a certificate of addition to my original patent.

It will be easy to understand the advantages of them after the read-

ing of the present memoir and the examination of the drawing that accompanies it.

It is known that for several years past much attention has been given to different plans of musquets, and especially of pistols, having several barrels that can revolve about a central axis as fast as they are successively discharged. These kinds of fire-arms afford the advantage of making it easy to fire as many times as the weapon has barrels, without, so to speak, any interruption; since, after the discharge of one of them, the barrels immediately change their place, and we can forthwith discharge the second, then the third, and so on up to the sixth, to the tenth, and even up to the eighteenth, for some of these arms have no less than eighteen barrels.

Nevertheless, as these weapons have been constructed hitherto, it must be acknowledged that, along with the advantages I have just pointed out, they present also disadvantages, which many persons have certainly remarked, and these are, that, to be able to make use of these arms, we must unscrew each of the barrels, one after another, then load them, prime them, and screw them on again, each one in its respective place. We readily understand the amount of annoyance and trouble such an arrangement causes, by the time it requires, and also even by the danger to which it exposes the inexperienced. If one does not wish to keep his musket or his pistol constantly loaded, he is absolutely obliged, in order to unload it, to go through the same labor, as long and as disagreeable, as was required to load it.

Understanding these different inconveniences, I have endeavored to avoid them by an arrangement, simple, commodious, and altogether economical. Thus I have settled, I dare to say so, this question in the most complete manner. I therefore desire to secure to myself the privilege of this further improvement, as I sought to do for the first arrangement described in my original patent.

The new mode of construction I have invented for this purpose is also applicable to all the plans devised for these kinds of arms with several movable barrels, as well to those systems in which the cartridge carries the priming upon it, as to those in which the cartridge has not the priming upon it.

It may be easily seen by the annexed drawing that my system simply consists in uniting all the barrels against a single *plate* or disk having a central axis, and in confining all these barrels by a simple screw, which, while it holds them upon the axis, allows them to turn around it in succession, as fast as the discharges take place.

I have represented in Fig. 1 of this drawing a side view of a pistol so arranged, and having six barrels. I need not say that the construction would be the same for any number of barrels whatever.

Fig. 2 is an end view of the same weapon at the extremity of the barrels.

Fig. 3 is a longitudinal section made by a vertical plane passing through the axis about which the barrels revolve.

Fig. 4 is a breech-end view, supposing the barrels taken off of the axis, and loaded with their cartridges.

These figures show clearly, that the six barrels, A, of the pistol, make together one body, and are applied against a single disk or plate B, of a circular form and having a solid connection with the cylindrical arbor or common axis C, which [disk or plate] can revolve, and, in revolving, carries with it the barrels in its successive rotation. A screw with a shoulder, D, fitted to a thread cut at the extremity of this axis serves to hold the six barrels by bearing them firmly against their plate, as is seen in Figs. 1 and 3. For greater solidity, I make the screw with a collar, as shown in Fig. 6.

Thus, when it is desired to take off the barrels, it is only necessary to unscrew this screw, which is done in a few seconds, and then we can load and prime the barrels very rapidly, put them immediately on the axis again, and replace the screw. These operations can be performed with such rapidity that I do not fear to assert that ten pistols of this kind, each having ten barrels, could be loaded as soon as one pistol made after the other systems, having the same number of barrels.

It is evident that, as I have just remarked, this new arrangement is applicable with the same ease to all the mechanisms belonging to pistols with several barrels, as well as in general to the different breech-loading fire-arms. I therefore reserve to myself the exclusive application of it without entering into other details relative to these different systems

in use, whatever may be the means employed to make the plate and the barrels revolve, and whatever be the combinations to effect the discharge.

Figs. 1 and 3 show a sort of ring or ferrule E, which surrounds the plate B and the extremity of the barrels, to conceal the prominent points. This ferrule should not revolve with the plate and the barrels. It is necessarily made solid with the fixed part of the weapon, and it ought to be notched, so as to let the hammer F pass to strike upon the cap.

Paris, 7 February, 1846.

Signed : LEFAUCHEUX.

Examined for annexation to the certificate of addition taken out the 7 February, 1846, by the *Sieur Lefauchaux*.

Paris, 23 April, 1846.

For the Minister and by delegation, the Counsellor of State, Secretary General.

Signed : CAMILLE PAGANEL.

A TRUE COPY.

The General of Division, Director of the Imperial Conservatory of Arts and Trades, for the Director, the Engineer, Sub-Director.

[Signed] A. TRESKA. [L. S.]

Paris, 16 July, 1862.

[TRANSLATION.]

COPY OF THE CERTIFICATE OF ADDITION OF THE 25 OF MAY,
1846, TO THE LEFAUCHEUX PATENT OF THE 2 MAY, 1845.

The present application for a certificate of addition is for the purpose of securing to myself the mechanical arrangements by means of which, I make a practical application of my system of rapid loading and firing to pistols with revolving barrels, even to those already manufactured.

Figure No. 1 shows separate the three principal parts which make up this sort of pistol.

A, the stock and the mechanism.

B, the plate [*noix*] to which the arbor is fastened by means of a screw.

C, the revolving barrels.

The piece B is that on which it is proper to enter into some details, as it is the basis of the present addition. In the older constructions of these kinds of pistols, the barrels were fixed to the intermediate piece, designated by the name of "*noix*," by a screw thread cut on the end of each barrel, which fitted into a hollow sunk into the plate [*noix*,] which also had a corresponding screw thread. Consequently it was necessary to unscrew and screw on again, one by one, the barrels, in order to introduce by the chamber the slug-ball [*la balle forcée*] used for loading it. This operation was difficult, long, and even dangerous, as it exposed the hand of the person who was loading his weapon in this way to the explosion of the barrels already loaded with their powder and ball. By the new method all these serious inconveniences are avoided, as it is only necessary to unscrew the nut placed at the centre of the group of barrels, all soldered together, or made in the same mass of metal, in order to detach them from the plate [*noix*,] which serves them for a breech, and with which they are firmly held in contact, when they are fired, by means of a long stem, surmounted by the nut above described, and passing through the centre of the group.

The central stem which thus keeps all the barrels in place is itself firmly connected with the plate [*noix*,] of which it may even be the prolongation, if the forger has taken care that it should be so.

To adapt this arrangement to arms already constructed, the stem is made to terminate in a disk, or circular plate, which we designate by the name of *platform*. This disk may be forged in the same piece with the stem, or may receive it with a screw and riveting. It is united (as is shown in No. 1, letter B, piece D,) to the plate [*noix*,] piece E, by means of a screw, that it may become solid with it.

All the parts, when brought together, form, in their combination, but one whole, and assume the appearance of the weapon represented in the figure No. 2.

It is for this construction, which is applicable to arms already made and may serve as a model for new arms, which shall be much more solid, and easy to make, than if the plate [*noix*] and the stem [*broche*] were in a single piece, that we take pains to make the present application for a patent of addition.

Paris, 24 May, 1846.

Signed :

LEFAUCHEUX.

Examined for annexation to the certificate of addition taken out the 25 May, 1846, by the Sieur Lefauchaux.

Paris the 22 September, 1846.

For the Minister, and by Delegation, the Counsellor of State, Secretary General.

Signed :

CAMILLE PAGANEL.

A TRUE COPY.

The General of Division, Director of the Conservatory of Arts and Trades, for the Director, the Engineer, Sub-Director.

[Signed]

A. TRESKA. [L.S.]

Paris, 16 July, 1862.

DEFENDANT'S DOCUMENTARY EVIDENCE.

EXHIBIT I.

Hartog & Devos' Belgian Patent applied for 25th May, 1853; issued 16th June, 1853.

The annexed drawings represent our invention applied to pistols.

These arms are provided with a revolving breech bored from end to end, with parallel chambers to receive the charges, which charges, by the evolution of the breech on its axis, are in succession brought to correspond with the bore or opening of the barrel, along which they are driven when the arm is fired.

Figure 1 represents the side view of a pistol completely finished.

Figure 2, a top view of the lock-plate, of the axis B, of the recoil-shield, and dog or hammer.

Figure 3, longitudinal section through the center of the lock-plate.

Figure 4, recoil-shield and lock-plate seen in front.

Figure 5, rear end of the revolving breech, containing six chambers.

Figure 6, front end of the revolving breech, containing six chambers.

Figure 7, D, hammer, with the pawl which effects the revolution; I, and its small spring K, F key; L, bolt lever; M, spring of the trigger and bolt lever; N, trigger.

Figure 8, rear elevation of the barrel, showing the recess which maintains the axis or arbor, B, the chamferring of the barrel, and the place for the insertion of the pins of the lock-plate.

Figure 9, cartridge-case and ball, called fixed charges proper for firing with arms which we are describing.

At the rear of the breech, Fig. 5, grooves or slopes are cut between each chamber in such a manner as to make the latter projecting, and to insure the action of the hammer on the loaded cartridge.

The breech is supported by an axis or arbor, B, on which it can revolve; this arbor is screwed into the recoil shield, and is parallel to the axis of the barrel; the recoil-shield is a continuation of the map of the lock-plate, C; these two pieces are cut out of a single piece of metal.

By referring to Figures 2, 3, and 4, the special construction of the lock-plate and the recoil-shield will be readily comprehended. The shield is placed at a right angle to the body of the lock-plate, and forms a hemispherical head for the arbor, B. The upper part of the shield is cut away to receive the dog or hammer, D, when it is thrown down to discharge the arm. A cavity is also cut in the piece of metal which forms the body of the lock-plate, (see Fig. 3,) as well to receive the parts which impart the revolving motion to the breech, as to fix the breech to the lock-plate so that the load shall be in line with the barrel before ignition can take place. When the arm is at half-cock, the breech can turn freely on its axis in the direction of the arrow, Fig. 1; you can then introduce into the rear end of the chambers the charged cartridges, without being obliged to withdraw the breech for the purpose of loading the chambers. The barrel is held in place by the end of the arbor, B, which enters a cavity in a swell making part of the barrel, as may be seen in Figure 1. Against the end of this socket the arbor, B, abuts, which determines exactly the position of the barrel with reference to the front of the revolving breech.

In order to maintain the barrel invariably at the same place, a key, F, is passed into slots made both in the swelling of the barrel and the arbor, B. The upper side of this key bears upon the forward side of the slot in the arbor, B, and its lower side acts against the lower extremity of the slots in the swell of the barrel; the effect of this contrivance is to draw the barrel against the cylinder breech and the lock-plate when the said key is shoved into its place.

The screw, O, Figure 1, the head of which applies itself to the groove cut out in the key, F, Figure 7, hinders this latter from escaping when the breech is dismounted. Pins, T, projecting from the end of the lock-plate, Figures 2, 3, and 4, enter corresponding cavities cut out in the swell of the barrel.

In Figures 6 and 8 it will be seen that the mouth of the chambers of

the breech, and also the inner end of the barrel, are chamferred; this chamfering is made to do away with the spitting out of the ball, and to prevent the ball from being cut in passing from the breech into the barrel at the instant of discharge. The dog or hammer, Figure 4, is provided with a claw, S S, which, after a discharge, draws back the remains of priming which rest in the discharged chamber. This hammer, D, turns on a pin fitted in the map of the lock-plate, C; it is provided with (Figures 3 and 7) fissures or notches into which the sear enters, so as to hold it (the hammer) either at half or full cock, as may be necessary.

To the hammer, D, Figure 7, is jointed a pawl, I; the spring, K, presses forward and maintains this pawl in contact with the ratchet (Figure 5) cut upon the end of the breech, and permits it (the pawl) to go back so as to pass to the succeeding tooth of the ratchet, and so on in succession. L, Figure 3, is a vibrating lever mounted on a pin secured in the lock-plate; it has at one end a bolt which is fitted to enter at certain times into the holes, 4, 4, formed in the periphery of the breech; the spring, M, Figure 3, forces it to rise to produce this effect. The other end of this lever is thinned sidewise in such a way that it forms a spring, so as to yield laterally to pressure and then to return again to its first position.

This formation permits the stud (Figure 3) which projects from the hammer, and whose head is chamferred, to pass by the lever without shoving down the bolt, which has entered into the breech, when the hammer comes down to explode the charge; but when the hammer is drawn back to the first notch, the stud, 5, causes the lever, L, to vibrate; by this movement, vibrates the breech. As long as the hammer remains in the first notch, (at half-cock,) the breech can be turned freely on its axis to receive the charges; but as soon as the stud, 5, has passed by the lever, L, the spring, M, will cause the bolt to rise into one of the holes in the breech, and will lock it. The action of drawing back the hammer as far as it will go will in the first place commence to draw out of the breech the bolt which locked it; then it will raise the pawl, I, which, being brought in contact with one of the ratchet teeth cut in the end of the breech, (Fig. 5,) will cause the said breech to turn in the

direction of the arrow, (Figure 1,) through the space of one tooth, and in such manner brings in succession the loaded chambers into the line of the barrel and of the hammer, in order that the discharge may take place. In order to insure the insertion of the bolt carried by the lever, L, into the holes, 4, 4, at the instant when they are brought to the desired spot by the rotation of the breech, a shallow groove is formed to guide the said bolt up to the edge of each hole into which it ought to enter, and render its entrance more certain than if it went into the hole abruptly.

In order to prevent the axis, B, and the central hole of the breech from clogging, there is hollowed out on the said axis a helical groove, (Figures 2 and 3;) the projecting edges of this groove will hinder the smoke from passing between the breech and the axis, more efficaciously than if the whole periphery of the said axis were in contact with the breech; and further, the said projections, during the rotation of the breech, will detach by grating up the fouling matter which may have deposited itself in the central cavity of the breech, and will draw it into the grooves.

The invention heretofore described can equally well, and without other change than the form of the stock and the spring, be applied to arms fired from the shoulder, such as carbines, therefore we think it useless to repeat our description for such varieties of arms. We claim as our own the application of the loaded ball to pistols and carbines with revolving breeches, which dispenses with the lever or ramrod applied up to the present time to arms of that class, and also does away with the nipples or cones.

Signed the 25th day of May, 1853.

(Signed,)

HARTOG & DEVOS.

Granted at Brussels the 16th day of June, by the King, (Leopold;) the Minister of the Interior, (signed,) J. Piercot. Compared for issue. The Secretary General of the Minister of the Interior.

E. O. STORM.

SPECIFICATION OF JOHN HENRY JOHNSON.

A. D. 1854. . . . No. 955.

REVOLVING FIRE-ARMS.

LETTERS PATENT to John Henry Johnson, of 47, Lincoln's Inn Fields, in the County of Middlesex, and of Glasgow, North Britain, Gentleman, for the Invention of "Improvements in Revolving Fire-arms." — A communication.

Sealed the 27th June, 1854, and dated the 27th April, 1854.

PROVISIONAL SPECIFICATION left by the said John Henry Johnson at the Office of the Commissioners of Patents, with his Petition, on the 27th April, 1854.

I, John Henry Johnson, of 47, Lincoln's Inn Fields, in the County of Middlesex, and of Glasgow, North Britain, Gentleman, do hereby declare the nature of the said Invention for "Improvements in Revolving Fire-arms," to be as follows:

This Invention relates to that class of fire-arms known as "revolvers," and consists principally of improvements in the construction of the revolving charge chamber, and in the construction of the breech, whereby greater facility of loading is effected. The revolving chamber is composed simply of a cylinder, with a number of holes or charge chambers bored through it, and also a hole through the axial center line of the cylinder, for the purpose of attaching it to the body of the pistol. The charge chambers may be bored slightly conical, if required; each chamber is notched at its hind part, to allow of the entrance therein of the percussion cap of the cartridge. The breech of the fire-arm is made in the form of a hemisphere, with a groove or channel in the centre, to admit of the lowering of the hammer, and one side is fitted a movable door working on a fixed centre in the breech; this door is opened or shut down by means of a small projection formed upon its surface, and serves to allow of the introduction of the

cartridges as fast as the several chambers come round. The rubbing surfaces of the revolving cylinder and the breech are rendered perfectly flat, as the breech serves as a bearing for the back of the cylinder. On the side of the barrel is fitted in suitable slides a flat bolt, which serves to force out the cartridge when not wanted for immediate use or for cleaning the chamber ; this bolt may be actuated by hand, each chamber being brought successively opposite to it. The movement of the cylinder is effected as usual, by the cocking of the lock, a projecting catch being made to act upon a ratchet. The cylinder is retained or held in its place by a spring, which drops into a recess or notch on the side of each chamber.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said John Henry Johnson in the Great Seal Patent Office on the 27th October, 1854.

To all to whom these presents shall come, I, John Henry Johnson, of 47, Lincoln's Inn Fields, in the County of Middlesex, and of Glasgow, North Britain, Gentleman, send greeting.

Whereas Her most Excellent Majesty, Queen Victoria, by Her Letters Patent, bearing date the Twenty-seventh day of April, in the year of our Lord One thousand eight hundred and fifty-four, in the seventeenth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said John Henry Johnson, Her special license that I, the said John Henry Johnson, my executors, administrators, and assigns, or such others as I, the said John Henry Johnson, my executors, administrators, or assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "Improvements in Revolving Fire-arms," a communication from abroad, upon the condition (amongst others) that I, the said John Henry Johnson, by an instrument in writing under my hand and seal, should particularly describe and ascertain the nature of the said Invention, and in what manner the same

was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

Now know ye, that I, the said John Henry Johnson, do hereby declare the nature of the said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement, reference being had to the accompanying Drawings, and to the letters and figures marked thereon, that is to say :—

The said Invention relates to the class of fire-arms termed revolvers, and consists chiefly of an improved construction of revolving chambered cylinder, and of a new arrangement of breech, to facilitate of the loading of the weapon. The revolving piece is a cylinder, with six or any other convenient number of cylindrical or slightly conical holes bored through it, to form the charge chambers; an additional hole is bored centrally through the cylinder for the passage of the spindle, upon which it turns, and to which the barrel of the weapon is attached. The charge chambers are each notched through to the outside of the cylinder at their back edges to suit the particular description of cartridge employed, this cartridge being made up with the percussion appliance, attached in such a manner as to enter and project through the notch of the charge chamber. The breech of the weapon is hemispherical in shape, and is formed with a vertical groove, in which the hammer works, the hammer rising up centrally from the stock. The face of the breech piece is perfectly smooth and flat, as is also the end of the charge cylinder in contact with it. A channel is formed in the breech on one side, through which the cartridges are to be introduced into the charge chambers as these are brought round in succession, and a filling-up piece is hinged to the breech to close the channel when the chambers are not being charged, a spring catch being provided to keep the filling-up piece closed when necessary. In a slide on one side of the barrel, and in a line with the charging channel in the breech piece, is a rod for forcing out the cartridges, if required, without exploding them, or for removing any matters left in the charge chambers after a discharge; this rod is prevented by a blade spring from falling out or moving unless the hand is applied. The rotation of the charge cylinder is effected in the usual

way by the action of a catch in connection with the hammer upon a ratchet formed upon the cylinder, and the cylinder is retained accurately in position during each discharge by means of a catch also acted upon by the hammer, and made to enter a notch in the cylinder face after each rotative movement. And in order that the said Invention may be properly understood, I shall now proceed to describe the several explanatory Figures on the Sheet of Drawings hereunto attached.

Figure 1 on the Sheet of Drawings is a side elevation of a 'revolver' pistol constructed according to this invention; Figure 2 is a horizontal section of the pistol taken through the line 1, 2, in Figure 1¹, that is to say, through the centre of the revolving cylinder; Figure 3 is a front elevation of the breech, shewing the central spindle in section; Figure 4 is a back view of the revolving cylinder, which is in this instance pierced for six charge chambers; Figure 5 is a view of the detent for holding the revolving cylinder in position; Figure 6 and 7 are details of the trigger; and Figure 8 is a transverse section through the barrel, shewing the manner of securing it upon the spindle, which passes through the revolving cylinder. The ordinary system is adhered to in the construction and arrangement of the barrel A and stock or handle B of the pistol, and the rotation of the charge cylinder C is effected by raising the hammer and by means of a catch *m*, (Figure 3,) which acts on a ratchet ring *n*, (Figure 4,) having six ratchets, so that on raising the hammer the cylinder C is each time turned to the extent of a sixth of a revolution. The cylinder is held in position after each shift by a peg R, fitted with a head *r*, which is acted upon by the tail of the hammer as to force the peg R into a notch *d* in the revolving cylinder when the hammer is raised, being again withdrawn on the descent of the hammer. An improved arrangement of trigger is used, which will be comprehended on reference to Figures 3, 6, and 7 of the drawings. The revolving piece C is a cylinder, bored with (in this instance) six charge chambers *e*, which may be either cylindrical or slightly conical; the cylinder is also bored with a central hole for the passage of the spindle *k*, upon which it turns. Each of the charge chambers *e* is formed with a notch *i*, through which the percussion appliance *f* projects, this being affixed to the cartridge D. The breech piece E is hemis-

spherical in shape, and is formed with a vertical groove at the back, in which the hammer works. A channel *h* is formed on one side of the breech piece for the introduction of the cartridges into the charge chambers *c*, as each is in succession brought opposite the channel *h*; a filling-up piece (*h*, Figure 3,) is hinged to the breech piece *E*, and serves to close the channel. This filling-up piece is fitted with a spring catch *h*¹, which enters a notch *h*² in the side of the channel, and keeps the filling-up piece closed, except when the spring is pressed by means of its extremity *t*. On one side of the main barrel *A*, and in a line with the channel *h* is a rod *P*, furnished with a small blade spring *m*, (Figure 1,) which keeps it in place; this rod serves for clearing out the charge chambers *c* when necessary. The spindle *k* which connects the stock *B* to the main barrel *A*, and also serves as an axis of revolution for the cylinder *C*, is formed with two projections *a*, (Figure 8,) so arranged as to enter grooves *b* in the socket *A*¹ of the main barrel. In fixing on the barrel, the socket *A*¹ is turned, so as to allow the projections *a* to enter the grooves *b*, and after being passed on the spindle the barrel and socket are turned back, and the projections *a* then prevent their being drawn off the spindle *k*; by means of this double bayonnette joint, the barrel *A* can be fixed to or detached from the stock with great facility and rapidity.

Having now described and particularly ascertained the nature of the said Invention, and the manner in which the same is or may be used or carried into effect, I would observe, in conclusion, that I do not confine or restrict myself to the precise details or arrangements which I have had occasion to describe or refer to, as many variations may be made therefrom without deviating from the principles or main features of the said Invention; but what I consider to be novel and original, and therefore claim as the Invention secured to me by the herein-before in part recited Letters Patent,—

First, the general arrangement and construction of fire-arms of the 'revolver' class, in the manner herein-before described.

Second, the application and use in fire-arms with revolving charge chambers of a breech piece, formed with a channel for the introduction of the charges into the chambers, such breech piece being provided

with a filling-up piece to close the channel when necessary, as herein-before described.

Third, the application and use in fire-arms with revolving charge chambers and with a loading channel in the breech piece of a sliding rod, held in place by a spring, for clearing the charge chambers through the loading channel when necessary, as herein-before described.

Fourth, the application and use in fire-arms with revolving charge chambers of a pin, actuated by the hammer movement, for holding the revolving cylinder accurately in position during the discharge, as herein-before described.

Fifth, the system or mode of connecting the main barrels of revolver fire-arms to the spindle on which the charge chambers revolve by means of a double bayonnette joint, as herein-before described more particularly in reference to Figure 8 on the Sheet of Drawings hereunto attached.

In witness whereof, I, the said John Henry Johnson, have hereunto set my hand and seal, the Twenty-third day of October, in the year of our Lord One thousand eight hundred and fifty-four.

J. HENRY JOHNSON. [L. S.]

DEPOSITION OF JOHN McLAUGHLIN.

Int. 1. What is your age, residence and occupation, and have you ever been an importer of fire-arms, and for how long?

Ans. I am 35 years of age; reside in Philadelphia; and am a dealer in fire-arms and sporting articles generally.

Int. 2. Are you acquainted with repeating fire-arms in which the chambers of the rotating cylinder extend right through the rear of the cylinder, so as to enable the chambers to be charged in the rear, by hand or by a self-acting charger, in a manner described and shown in the patent of Rollin White, dated April 3d, 1855?

Ans. I am acquainted with repeating fire-arms in which the chambers

of the rotating cylinder extend right through the rear of the cylinder, so as to enable the chambers to be charged in the rear by hand, but have never seen a fire-arm of this description in which the chambers are charged by a self-acting charger.

Int. 3. Where did you first have knowledge of pistols or other fire-arms, and what other, in this country constructed and operating in that way; in whose possession were such pistols or other arms; and if in your own, how did you come into possession of them, and how long did you continue to have them, and what did you do with them?

Ans. According to the best of my recollection and belief, the firm of which I am a member, J. C. Grubb & Co., purchased in Paris, and imported to this city of Philadelphia, two repeating cylinder pistols, about the year 1852 or 1853. The cylinders of these pistols contained ten chambers each, and were charged by hand from the rear with metallic cartridges; and also in the year 1854 (by referring to our invoices, I find the date August 11, 1854) we imported eight repeating cylinder pistols, the chambers of the cylinders of which were perforated through and through, and were charged from the rear by hand with a metallic cartridge, known as *Flobert's bulleted cap*; these pistols were in our possession three or four years at our store, No. 236 Market street, Philadelphia; they were in our possession for the purpose of sale, and by an arrangement with the manufacturer in Liege, Belgium, if the arms did not prove salable we had the privilege of handing them over to his agent in Philadelphia; they did not prove salable, and after keeping them three or four years we handed them over to the said agent; this agent's name was Heinrich Weiner.

Int. 4. Can you produce one of such pistols or other fire-arms, or refer us to any like them, so that they can be identified?

Ans. I can produce a pistol of the kind referred to as having been imported by us, invoice dated August 11, 1854. (Witness here produces the invoice referred to, and the paper is marked A by Commissioner; witness also produces a pistol of the kind referred to, known as the Flobert revolving pistol, having a single barrel and a cylinder which revolves by cocking the pistol, and which contains six chambers drilled through and through, and which is intended to discharge Flobert's

metallic bulleted cap; witness also produces one of said caps, on which are the letters G. D.; the pistol is marked Exhibit B, and the cap Exhibit C, by the Commissioner.) To the best of my knowledge and belief this pistol is one of the identical pistols imported by our firm in 1854; if not the same, it is in every respect similar; this is the cap known as the Flobert's metallic bulleted cap, and was imported by us; we have been importing such for at least ten years.

Int. 5. How many of such pistols or other fire-arms did you come in possession of before the 1st of January, 1855? and if you sold any of them, state whether before or after that date, and if any before, how long before; state the time as near as you can.

Ans. We had at least ten of these pistols in our possession before the 1st of January, 1855; two of these, which were purchased in Paris some time in 1852 or 1853, we sold over the counter, but to whom or at what date I cannot say; to the best of my knowledge and belief, it was after January, 1855, but the exact date I cannot give; eight of these pistols were disposed of as stated in my answer to the third interrogatory.

Int. 6. State any other matter or thing within your knowledge material to this case, and of benefit to the defendants.

Ans. I Know nothing further material to the case.

(Signed)

JOHN McLAUGHLIN.

Deposition taken reduced to writing, and
by the witness subscribed and affirmed }
to, this 14th day of October, 1861.

H. R. WARRINER,
Commissioner.

Cross-Interrogatories.

Cross-Int. 1. If in answer to the second interrogatory you say you have seen repeating fire-arms with the chambers of the cylinder extending through the cylinder so as to be charged from the rear, describe the cylinder thus perforated and its uses or functions in the arm; state

how it was to be charged, whether with a cartridge or otherwise, and if with a cartridge, how made, and how ignited, and whether containing percussion powder or not, and intended to be exploded by the direct action of the hammer upon the cartridge, or upon a knob or pin attached to the cartridge, or not, containing the percussion powder, and to be exploded by some means disconnected with the cartridge; state by whom it was made, and by what name it was known in the community.

Ans. The cylinders in the pistols referred to and described by me in my foregoing answers contained six or more chambers each, which were drilled through and through; the chambers were intended to hold the charge which was in the form of a cartridge, of the kind referred to in my answers to the direct interrogatories, known as Flobert's bullet cap; these caps were placed by hand in the chamber from the rear; they contained a certain amount of percussion powder and a bullet, and were discharged by a direct blow from the hammer, being compressed between the hammer and the rear of the cylinder.

Cross-Int. 2. Describe the features of resemblance between the said fire-arm and the arm described in the patent granted to Rollin White, April 3d, 1855, and referred to in the second interrogatory. Be particular, and give a full description of all the features of resemblance between them.

Ans. I am unable to state the difference, or the resemblance between the pistol above referred to and the arm described in the patent granted to Rollin White, April 3d, 1855, never having had any of the latter in my possession.

Cross-Int. 3. In answer to the third interrogatory, you say you have been in possession of such arms; state the time when you first saw them, and particularly state how you fix the date?

Ans. The time when I first saw the two pistols heretofore referred to as purchased in Paris, was in the summer of 1852, or 1853; I am unable to state which year, but I am confident it was at least a year previous to the time when we received the other eight pistols from Liege, Belgium, which reached us about the 1st of October, 1854; with respect to the latter date, my recollection is based upon the records contained in our invoice-book, and one of the original invoices, of which

we received two about the first of October, 1854. It was my special duty to receive these foreign goods, examine them, have the cost calculated, and marked on the goods; and I was particularly struck with these arms on account of their novelty.

Cross-Int. 4. Who made said arms, and where were they made, and have you now one of them? If you have one, please produce it and have it annexed to your deposition as an exhibit, and if you sold them, say when and to whom.

Ans. The answer to this interrogatory is fully given in the foregoing answers to the direct interrogatories.

Cross-Int. 5. Did you sell cartridges for any of the repeating arms mentioned in your answers, and if yea, where and by whom were they made and how?

Ans. We have imported and sold cartridges for such arms to a considerable extent during the past ten years; these cartridges were mostly manufactured in or near Paris, but by whom I can not state, as we purchased of a commission house in Paris. I do not know how they were manufactured.

Cross-Int. 6. To whom did you ever sell any of the repeating arms named in your deposition before January 1st, 1855? Name the person to whom you sold such arm, and how many did you sell in all?

Ans. As I have before stated, we sold two pistols of the kind described, but to whom sold, or at what exact time, I can not now state; whether before or after January 1855. Eight, as I have before stated, were returned to Heinrich Weiner, the agent of the manufacturer.

Cross-Int. 7. Have you sold any fire-arms like those named in the second direct interrogatory, since September 1855, and how many in each year, and where were such arms made?

Ans. Since September, 1855, we have received and sold pistols of the kind described in the second direct interrogatory, made by Smith and Wesson, Springfield, Massachusetts; by James Warner, Springfield, Massachusetts; by Allen and Wheelock, Worcester, Massachusetts; and by a Mr. Prescott, Worcester, Massachusetts; by a Mr. Bacon, in Norwich, Connecticut, and by Sharp and Hawkins, Philadelphia. These pistols were sold to our customers generally throughout the United States.

I will add that we also received and sold pistols made by the Manhattan Arm Company, in or near New York. The number of such pistols received and sold by us, I should estimate, without referring to our books, at from two hundred to a thousand a year.

(Signed,)

JOHN McLAUGHLIN.

Examination taken, reduced to writing, and by the witness subscribed and affirmed to, this 14th day of October, A. D. 1861.

H. R. WARRINER, *Commissioner*.

DEPOSITION OF JOHN P. LOWER.

John P. Lower, of the city of Philadelphia, clerk, aged twenty-nine years, or thereabouts, being produced, sworn, and examined on behalf of the defendants, this 15th day of October, 1861, deposes as follows:

Int. 1. What is your age, residence and occupation, and have you ever been an importer of fire-arms, and for how long?

Ans. I shall be twenty-nine years old on the 2d day of January next; reside at No. 1254 Warnock street, Philadelphia; I am a clerk in the store of J. C. Grubb and Co.

Int. 2. Are you acquainted with repeating fire-arms, in which the chambers of the rotating cylinder extend right through the rear of the cylinder, so as to enable the chambers to be charged at the rear by hand or by a self-acting charger, in the manner described and shown in the patent of Rolin White, dated April 3d, 1855?

Ans. I am acquainted with repeating fire-arms, in which the chambers of the rotating cylinders are bored through and through, as we term it, so as to admit of being charged in the rear with metallic cartridge known as the Flobert cartridge, by hand; I have never seen any charged with a self-acting charger; I never, to the best of my knowledge and belief, saw any of the pistols patented by Rolin White, April 3d, 1855; I have seen a drawing of his patent, and know nothing further of it.

Int. 3. When did you first have knowledge of pistols or other fire-arms, and what other in this country, constructed and operating in that way; in whose possession were such pistols or other arms; and if in your own, how did you come into possession of them, and how long did you continue to have them, and what did you do with them?

Ans. The first knowledge that I had of any such arms, to the best of my recollection, was about 1853; they were imported by J. C. Grubb & Co., from Paris, I think, and were known as the ten shot Flobert repeating pistol; these pistols were in the possession of J. C. Grubb & Co., my employers at that time and now; I cannot distinctly remember of seeing more than one of these ten-shot pistols myself; these pistols were in the possession of J. C. Grubb & Co. several months, I cannot tell exactly how long, for the purposes of sale, and were sold, but to whom I cannot say; I also recollect eight more similar pistols, imported by my employers in the autumn of 1854; these latter had but six chambers in the rotating cylinders, and they were also of two sizes, or calibre; these pistols were imported from the manufacturer, Liege, Belgium, and were in the possession of J. C. Grubb & Co., for sale, I think a year or two, and were finally returned to Heinrich Weiner, the agent of the manufacturer.

Int. 4. Can you produce one of such pistols, or other fire-arms, or refer us to any like them, so that they can be identified?

Ans. I can. (Witness is here shown the pistol marked Exhibit B.) To the best of my knowledge and belief, this is one of the identical pistols imported by J. C. Grubb & Co. from Liege, Belgium, in the autumn of 1854. (Witness is here shown Exhibit C.) This is the metallic cartridge known as the Flobert cartridge, and used with these pistols; these caps have been imported by J. C. Grubb & Co., regularly, for the last ten years.

Int. 5. How many of such pistols or other fire-arms did you come in possession of before the 1st of January, 1855; and if you sold any of them, state whether before or after that date, and if any before, how long before; state the time as near as you can.

Ans. My knowledge and possession of any such arms as above described arose entirely from my employment in the store of J. C. Grubb

& Co., before the first of January, 1855; of those imported in 1853, I saw but one; I saw eight imported in 1854; I never sold any of them, and of my own knowledge do not know when they were sold; I was one of the salesmen at that time.

Int. 6. State any other matter or thing within your knowledge material to this case and of benefit to the defendants?

Ans. I know no other matter or thing material to this case or beneficial to the defendants.

(Signed.)

JOHN P. LOWER.

Deposition taken, reduced to writing, and by the witness subscribed and sworn to, this 15th day of October, 1861.

H. R. WARRINER, *Commissioner.*

Cross-Interrogatories.

Cross-Int. 1. If in answer to the second interrogatory you say you have seen repeating fire-arms with the chambers of the cylinder extending through the cylinder, so as to be charged from the rear, describe the cylinder thus perforated, and its uses or functions in the arm; state how it was to be charged, whether with a cartridge or otherwise, and if with a cartridge, state what cartridge, how made, and how ignited, and whether containing percussion-powder or not, and intended to be exploded by the direct action of the hammer upon the cartridge, or upon a knob or pin attached to the cartridge, or not containing the percussion-powder, and to be exploded by some means disconnected with the cartridge; state by whom it was made, and by what name it was known in the community.

Ans. The cylinders of the pistols I have spoken of in my answers to the direct interrogatories contained six or more chambers, drilled through and through, which were charged with the metallic cartridge known as the Modern bulletted cap at the rear, by hand: these cartridges contain a small ball of lead and fulminating powder, surrounded or encased by copper, and are exploded by percussion of the hammer

against the rear of the cartridges, the rim or flange of the cartridge being compressed against the cylinder.

Cross-Int. 2. Describe the features of resemblance between the said fire-arm and the arm described in the patent granted to Rollin White, April 3d, 1855, and referred to in the second interrogatory; be particular, and give a full description of all the features of resemblance between them?

Ans. I cannot state the resemblance between the pistol above referred to and the arm patented by Rollin White, April 3d, 1855, for the reason that I have never seen any of the latter, and have but an indistinct idea of its construction.

Cross-Int. 3. If in answer to the third interrogatory you say you have been in possession of such arms, state the time when you *first* saw them, and particularly state how you fix the date?

Ans. The time when I first saw the arms above referred to was, to the best of my recollection, about the year 1853; I fix the date by the time when I was first employed by J. C. Grubb & Co., which was in 1851, and I know it was within two years after that.

Cross-Int. 4. Who made said arms, and where were they made, and have you now one of them; if you have one, please produce it, and have it annexed to your deposition as an exhibit; and if you sold them, say when, and to whom.

Ans. Who made the arms imported by J. C. Grubb & Co., in 1852 or 1853, I cannot say, but the eight pistols imported in 1854 came from Renkin Brothers, manufacturers of fire-arms at Liege, Belgium, and I believe they were made by them; the other matters inquired of in this interrogatory are fully answered and set forth in the preceding answers, to the best of my knowledge and recollection.

Cross-Int. 5. Did you sell cartridges for any of the repeating arms mentioned in your answers, and if yea, where and by whom were they made, and how?

Ans. I did sell cartridges such as above described, which were imported in boxes from Paris, but where, how, and by whom made, I cannot say.

Cross-Int. 6. To whom did you ever sell any of the repeating arms

named in your deposition, before January 1st, 1855; name the person to whom you sold such arm, and how many did you sell in all?

Ans. To the best of my recollection, I never sold any repeating arms such as above described, before the 1st of January, 1855.

Cross-Int. 7. Have you sold any fire-arms like those named in the 2d direct interrogatory since September, 1855, and how many in each year, and where were such arms made?

Ans. I have, as salesman for J. C. Grubb & Co., sold repeating fire-arms like those described in the 2d direct interrogatory, since September, 1855; how many it is impossible for me to state, as I keep no record of such sales; the arms I refer to were made by Smith & Wesson, Springfield, Massachusetts, by Allen & Wheelock, Worcester, Massachusetts, by the Manhattan Fire-Arm Manufacturing Company, New-York, by James Warner, Springfield, Massachusetts, by a Mr. Bacon, Norwich, Connecticut, and by Sharp & Hawkins, Philadelphia; these arms made by these different persons were not exactly alike, but were all constructed and operated in a similar manner; so far as any description has been given in these interrogatories and answers, they correspond.

(Signed,)

JOHN P. LOWER.

Examination taken, reduced to writing, and by the witness subscribed and sworn to, this 15th day of October, A. D. 1861.

H. R. WARRINER, *Commissioner.*

DEPOSITION OF GEORGE SMITH.

Int. 1. What is your name, age, residence, and occupation?

Ans. George Smith; age, 41; New-York City; gun business.

Int. 2. Will you examine certified copy of Letters Patent granted to Rollin White, April 3d, 1855, for improvement in repeating fire-arms, and state whether, prior to that date, you ever had knowledge in this country of a repeating pistol having the chambers or barrels bored

entirely through so as to be charged at the rear by hand, or by self-acting charges, in the manner there described, or how differing therefrom?

Ans. Yes, we imported one pistol similar to that five-shot, to load at the breech, in October 17th, 1854. We imported ten single-barrel pistols, called Flobert's pistols, April 25th, 1854; also nineteen single pistols on the same date.

Int. 3. When did you first know of a repeating pistol having the chambers or barrels bored through to the rear, for the purpose of loading at the breech, in this country?

Ans. October 17th, 1854.

Int. 4. Have you one of such pistols; and if so, produce it?

Ans. I have, and produce it—marked Exhibit A.

Int. 5. Please say how such pistol was loaded and discharged, fully and particularly?

Ans. It was loaded at the breech with a metallic cartridge, by unscrewing and taking off the barrels.

Int. 6. Please describe the cartridge used, and if possible, annex one?

Ans. The cartridge similar to Smith & Wesson's, such as they make now, containing cap and ball all together.

Int. 7. How do you fix the date of your first knowledge of such pistol?

Ans. From our books and invoice. They were imported in the ship Sarah G. Hyde.

Int. 8. What connection have you with the books?

Ans. I overlook them and have charge of the business.

Int. 9. How many of the pistols like the one produced have you ever seen in this country?

Ans. This is the only one. I have seen something similar to it.

Int. 10. When and what was it?

Ans. I have seen a French pistol similar to it, the cartridge a little different. I could not tell exactly the date, but it was before we imported the one produced. The cartridge was similar to the cartridge used in the pistol produced, but it had a little wire projecting from the

butt end of the cartridge, to be struck by the hammer. It was a repeating pistol, and loaded at the breech, similar to the one produced. It was a pepper-box pistol, like the one produced.

Int. 11. How long before you imported the pistol produced did you see the pistols spoken of in your last answer?

Ans. About 1852.

Int. 12. Where did you see them?

Ans. Came into our store for repair and to get cartridges.

Int. 13. Please state what other difference, if any, there was, except in the kind of cartridge used, between such pistols and the one produced?

Ans. The French pistols had a hinged piece covering the rear of the barrels, and on the side of the pistol, which being raised left a space through which the cartridge could be inserted into the rear of the barrel; that is all the difference.

Int. 14. Please state, if you know, by what name such pistols are known among gunsmiths?

Ans. Cartridge pistols.

Int. 15. Please give the date when you first saw one of said such pistols more particularly if possible?

Ans. That I could not say more particularly.

Cross-Interrogatories.

Cross-Int. 1. What enables you to say that it was about 1852 that you saw the first French pistol?

Ans. I remember that some Frenchmen who were going to California brought it into the store to get cartridges for it.

Cross-Int. 2. How does that enable you to say that it was in 1852?

Ans. Because it was in 1851 I went into the gun business, and it was about two years afterward.

Cross-Int. 3. Describe particularly the rear end of the cartridge used in the French pistols?

Ans. Similar to Smith & Wesson's, with a wire projecting 1-16 of an inch.

Cross-Int. 4. Where was that wire at the time of the discharge?

Ans. It still stopped in the cap after it exploded.

Cross-Int. 5. I meant by my last question to inquire its locality in the pistol, and relatively to the hammer for the discharge?

Ans. It revolved directly under the hammer, so that the hammer should strike the wire and explode it.

Cross-Int. 6. Did it (the wire) rest on anything at the time of effecting the discharge?

Ans. It was inserted in the cartridge, and was driven into the percussion-powder to explode it.

Cross-Int. 7. Describe the form of that part of the hammer which effected the discharge?

Ans. It was what is generally called the saddle-hammer, similar to the one in the pistol, (Exhibit A.)

Cross-Int. 8. What do you mean by the point?

Ans. A piece projecting forward so as to strike down on the wire of the cartridge, one of which cartridges I now produce, marked Exhibit B.

Cross-Int. 9. Was there an open space between the rear end of the barrels and the shield; and if so, of what extent?

Ans. There was an open space, but not so much as in Exhibit A.

Cross-Int. 10. Did you furnish cartridges to the Frenchmen who had the pistol to which you have referred?

Ans. No, we did not have them.

Cross-Int. 11. Do you remember the time when you received the first pistol like Exhibit A, independently of the reference to the books of your concern?

Ans. No, sir.

Cross-Int. 12. When the pistol, Exhibit A, was first received, did you see it, or was it afterward that you first saw it?

Ans. I unpacked it.

Cross-Int. 13. Do you have the custody of the invoices in your establishment?

Ans. The clerk in the store has charge of them, and I examine the goods by the invoice when they arrive.

Cross-Int. 14. Did you receive any more pistols like Exhibit A ; and if so, when first after receiving Exhibit A ?

Ans. That was the only one.

Cross-Int. 15. Did you order any more like Exhibit A ?

Ans. No.

Cross-Int. 16. Were the pistols which you say were received by you April 25th, 1854, called the Flobert pistols, single or repeating pistols ?

Ans. Single.

Direct resumed.

Int. 1. Can you say what season of the year it was when the French pistol was brought in for cartridges ?

Ans. I think it was the fall of 1852.

Re-Cross-Examination.

Cross-Int. 1. What enables you to say that it was in the fall of 1852 ?

Ans. To the best of my knowledge it was.

Cross-Int. 2. Do you testify to this from anything other than unaided recollection, or is there in your mind any connecting circumstance, the date of which is recorded ; and if so, what is such circumstance ?

Ans. I don't recollect any connecting circumstance.

Direct resumed.

Int. 1. Do you know what has become of the pistol brought in by the Frenchmen ?

Ans. They took it away with them.

Int. 2. Can you give us information that will enable us to find that pistol, or any like it sent for repair ?

Ans. I cannot.

DEPOSITION OF GEORGE C. TAFT.

Mr. Causten Browne for defendants; Mr. Stoughton for complainants.
George C. Taft called, and sworn in behalf of defendants.

Int. 1. What is your name, age, residence, and occupation?

Ans. George C. Taft; forty-nine years of age; reside at Worcester, Mass.; and am a machinist.

Int. 2. How long have you resided at Worcester?

Ans. Since the year 1828.

Int. 3. Did you ever know Jubal Harrington, formerly of Worcester, but now residing in California; and if yea, when did you know him, and how well?

Ans. I did; I have known him from 1833 to 1850; I was on intimate terms with him; as well as any gentleman I am acquainted with.

Int. 4. In what year did he move to California?

Ans. In 1851, I think.

Int. 5. Did you ever see in Harrington's possession, in Worcester, a pistol of peculiar construction; if so, state where, and under what circumstances you saw it?

Ans. I did; I met Mr. Harrington on the street, in 1842, opposite Squire Bigelow's house, and stopped under some large elm-trees; he showed me a pistol of peculiar construction, revolving cylinder, perforated holes entirely through the cylinder, a guard-plate in the front and rear, barrel in front of the cylinder; the cylinder was so arranged as to load in the rear of the cylinder with steel-shell cartridges; these were the general features of the pistol.

Int. 6. How long did your interview last?

Ans. I should think, as near as I can recollect, half an hour or so.

Int. 7. Did he ask you to do anything about it, and what?

Ans. He asked me if I could take hold and manufacture the article; I told him I could not, not having machinery or means to commence the manufactory.

Int. 8. What was your business at that time, and had you had anything, and what, to do with pistols, or other fire-arms, previous to this interview?

Ans. I was in the manufacture of letter-copying presses; I had made pistols, a number of them for my own use, prior to that time.

Int. 9. What was Harrington's business at this time, and what, if anything, had he previously had to do with mechanical inventions, if you know?

Ans. He was in no particular business that I know of, except inventing; he was inventing a pump at that time; he had been getting up fire-arms and a pump; they seemed to be his principal forte of operations at that time.

Int. 10. Do you know where the pistol shown you by Harrington now is, or whether it is in existence?

Ans. I do not.

Int. 11. Do you remember the pistol shown you by him so clearly as to be able to identify a model of it, if now exhibited to you?

Ans. I think I should.

Int. 12. Will you look at the pistol now shown to you, and to be labelled "Jubal Harrington," under the seal of the Commission, and examine it, and its operation, carefully, and say how far it represents the pistol so shown to you by Harrington, pointing out particularly such differences, if any, as you may observe?

Ans. I should judge the general features were the same; the main arrangement for the loading is precisely the same, and the steel cartridge, as near as I can recollect, is the same; it was inserted in the rear of the cylinder.

Int. 13. Please define exactly what you mean by the "main arrangement for the loading" which you say was precisely the same.

Ans. The difference between this and other pistols I had seen was in drilling the holes clear through, for the purpose of inserting the steel cartridge in the rear of the cylinder.

Int. 14. In regard to the rotation of the cylinder, and the other arrangement of the cylinder with reference to the barrel, do you perceive any difference; and what, if any, between the Exhibit and the Harrington pistol?

Ans. I don't perceive any.

Int. 15. Will you now specify any difference whatever in the details of the two, so far as you can?

Ans. I don't see anything on the pistol of any note, with one exception; it is a larger arm than his.

Int. 16. Do you see any difference which you consider not of any note, except the size of the pistol?

Ans. I do not.

Int. 17. Do you remember whether the Harrington pistol had a guard for the trigger?

Ans. It had.

Int. 18. Do you remember whether the back of the recoil-plate was channeled out to admit the front of the hammer when the arm was discharged?

Ans. I could not recollect that point.

Int. 19. Do you remember if the Harrington pistol was provided with sights?

Ans. Yes, sir, it was.

Int. 20. In regard to the cutting away of the recoil-plate for the insertion of the cartridge into the chamber, and the form and the size of the place so cut away for that purpose: please examine carefully, and state what difference, if any, you find between the Exhibit and the Harrington pistol, if any?

Ans. As near as I can recollect, it is substantially the same. I should judge it was the same. I can't give you the exact form, but it was cut away so as to admit of the cartridge into the cylinder.

Int. 21. How were the Harrington cartridge-shells charged and discharged?

Ans. They were drawn from the cylinder and charged in front with powder and ball, the same as any other musket or pistol; when loaded they were inserted into the cylinder at the rear, and when brought into the line of the barrel they were discharged by a hammer and cap. What I meant to say about loading the shells was, that they were loaded at the muzzle, just as you would load any arm that was loaded at the muzzle.

Cross-Interrogatories by Mr. Stoughton, Complainants' Counsel

Cross-Int. 22. What is your present business, and where in particular in Worcester do you conduct it?

Ans. My present business is manufacturing wrenches in Maryfield's building, in Worcester.

Cross-Int. 23. Do you conduct this business on your own account, and if yea, for what leugh of time have you conducted the same?

Ans. I have conducted this kind of business ever since 1852, sometimes on my own account, and sometimes in connection with others.

Cross-Int. 24. What do you mean by the phrase, "in connection with others?"

Ans. For four years I was in company with Mr. Gleason, and at other times I was employed by Mr. Rice to take charge of the manufacturing of wrenches.

Cross-Int. 25. Are you employed by any one at present?

Ans. No, sir.

Cross-Int. 26. Did your intimacy with Harrington continue until he left Worcester for California?

Ans. It did until within a couple of months, perhaps.

Cross-Int. 27. How frequently were you in the habit of seeing him from say the year 1840, until about the time he so left?

Ans. Well, sir, I used to meet him in the street, in going from my shop, frequently every day, the same as I would meet any other man or neighbor living close by, as he did; he was frequently in my shop.

Cross-Int. 28. Was there a suspension of your intimacy during about two months before he left for California?

Ans. I had no direct communication with him for that time.

Cross-Int. 29. Why had you not?

Ans. I had no business of any importance which would lead to a communication with him.

Cross-Int. 30. Was that the only reason that you did not have communication with him?

Ans. I think it was.

Cross-Int. 31. Was Harrington in Worcester during that two months?

Ans. Most of the time, I think.

Cross-Int. 32. Was he away from Worcester at any time during that two months?

Ans. To my own knowledge, I could not say that he was; I had no knowledge of it myself.

Cross-Int. 33. Were you informed that he was away from Worcester during that two months before he left for California?

[*Objected to.*]

Ans. Am I obliged to answer that question? I was informed that he was absent, that he was out of the city of Worcester.

Cross-Int. 34. Were you not informed of his purpose to leave the city of Worcester before he went?

Ans. I was not.

Cross-Int. 35. Do you know Levi Jackson, at Worcester?

Ans. I do.

Cross-Int. 36. Was he a constable of Worcester at and prior to the time Harrington left for California?

Ans. He was.

Cross-Int. 37. Do you know Frederick Warren, who was a constable of the town of Worcester, at about the time Harrington left for California?

Ans. I did know a man by the name of Frederick Warren; I think he was a constable of that town.

Cross-Int. 38. Were you not informed that, before Harrington left for California he was charged with blowing up, or attempting to blow up, by means of powder or some explosive material, the house of Frederick Warren, or some building in Worcester?

(*Objected to, as irrelevant and scandalous.*)

Ans. I have no recollection of being so informed by any one.

Cross-Int. 39. Were you not informed, or did you not know that Harrington fled from or left Worcester under a charge similar to that stated in the previous questions, and that he was arrested after he had left Worcester, and brought back there upon such a charge?

(Objected to, as before.)

Ans. I was informed that he was arrested on that charge; as for his leaving, I don't know what his motive for leaving was; I never was informed by any one what it was.

Cross-Int. 40. Did Harrington, soon after such arrest, and before his trial upon that charge, leave Worcester for California, and ever to your knowledge return?

(Objected to, it not appearing that Harrington was ever so arrested or tried, and also as irrelevant and scandalous.)

Ans. He left Worcester, and never returned, to my knowledge.

Cross-Int. 41. Did you procure or assist in procuring any shell or shells, or any explosive material, for Harrington, prior to the time when he made any attempt to blow up, or injure any building in Worcester?

(Objected to, as before.)

Ans. No, sir.

Cross-Int. 42. Did you ever confess, or state to Levi Jackson, or to any other person in Worcester, that you had procured or assisted in procuring for Harrington any such shell, or such explosive material?

Ans. No, sir.

Cross-Int. 43. Are you positive, and do you so state, that you never made any such statement or confession?

Ans. I have no recollection of ever making any such statement or confession.

Cross-Int. 44. Did you not have knowledge or information of some kind that Harrington intended to make use of some shell or explosive material, for the purpose of blowing up or injuring the office of the Mayor of the city of Worcester, or the house of Frederick Warren, a constable of that city, or some other building therein?

Ans. I never had any knowledge that he was ever going to blow up any house or building therein. I had no knowledge or information that he was going to blow up any house or building of any kind.

Cross-Int. 45. Did you not give to some constable or person some information, before Harrington was arrested and brought back to Worcester, that you had in some way aided him in procuring shells or

explosive material, by means of which it was said he had blown up or attempted to blow up some building?

Ans. I might have given some information that he came to my shop, or took some balls that I had cast for myself, for the purpose of hanging up over some bowling-alleys that I owned.

Cross-Int. 46. Were these balls hollow?

Ans. They were cast with a straight hole, for the purpose of driving a wooden handle or plug in them, so that I could hang them up.

Cross-Int. 47. How many of these did he take?

Ans. There were three in the office. I can't swear whether he took them all or not. He took them himself.

Cross-Int. 48. Who cast these balls?

Ans. Jesse Moulton, of East Brookfield.

Cross-Int. 49. When were they cast?

Ans. To the best of my recollection, in 1850. I could not swear positive.

Cross-Int. 50. How soon after taking them was he charged with having blown up the office of the Mayor, or the house of the constable?

Ans. That I could not state positive. From three to five months. I could not swear to the exact time.

Cross-Int. 51. May it not have been much less than three months?

Ans. I have answered that question once to the best of my knowledge.

Cross-Int. 52. Question repeated.

Ans. I couldn't state, sir. I could not recollect.

Cross-Int. 53. How soon after taking those balls did Harrington leave Worcester?

Ans. I couldn't state the exact time.

Cross-Int. 54. About how much did each of these balls weigh?

Ans. I could not recollect the exact weight. They were three or four inches in diameter. I could have brought the patterns on if you would like to see them.

Cross-Int. 55. What was your business at that time?

Ans. I was in no business just at that time, having sold out my bowling-alleys to Mr. Noyes.

Cross-Int. 56. How long had you kept these bowling-alleys before you sold them out?

Ans. I couldn't state the exact time, but it was between four and five months.

Cross-Int. 57. What were you doing next prior to the time you kept the bowling-alleys?

Ans. I was manufacturing wrenches and letter-copying presses.

Cross-Int. 58. How soon after Harrington left did you go to doing something in the way of business?

Ans. I went to work directly, for a man by the name of E. A. Dixey, and worked for him some six weeks. I then came on to New-York, and made a contract with Logan, Vail & Co., No. 9 Gold street, to manufacture hammer wrenches for a term of two years.

Cross-Int. 59. Did you see Harrington often at your bowling-alleys?

Ans. He was there frequently with others.

Cross-Int. 60. Did you ever see the pistol, from the time he showed it to you under the elms, as you have stated?

Ans. I never did.

Cross-Int. 61. How long will you positively state that your interview with Harrington lasted when he showed you the pistol?

Ans. Half an hour. When people are talking, time passes. I could not state positive, but think it was as long as a half an hour.

Cross-Int. 62. Can you recollect all the subjects that you conversed with him about at that interview?

Ans. The main subject was upon the pistol, inquiring of me who he could get to manufacture them, or take hold and assist him. I directed him to go to Allen & Thurber, of Grafton, as the most likely persons to assist him that I knew of.

Cross-Int. 63. Did you mention any other person to him?

Ans. I have no recollection of so doing at that time.

Cross-Int. 64. Did he tell you who made the pistol that he showed you?

Ans. He did not.

Cross-Int. 65. Had he any shop or place of his own in which he worked, and if yea, where in particular was it?

Ans. I have no knowledge of his having a shop of his own.

Cross-Int. 66. Did you ever see this pump which you say he was inventing, and if so, state what sort of a pump it was, and what in particular he claimed to have invented therein?

Ans. I never see the pump together; I saw detached parts of it, and only know from his own statement that it was to raise water higher than thirty feet with very little power; he said he had an arrangement to equalize the pressure.

Cross-Int. 67. Did you ever know or hear of its being in operation?

Ans. His brother has told me of its being in operation; I never saw it in operation.

Cross-Int. 68. In what year and in what season of the year did you have this interview with Harrington, when he showed you the pistol?

Ans. I think it was in the year 1842 — in the month of May or June.

Cross-Int. 69. When did you first see the model marked Jubal Harrington, this day produced before the Examiner?

Ans. Wednesday of this week, I think — day before yesterday.

Cross-Int. 70. Who showed it to you, and how long were you then engaged in examining it?

Ans. Mr. Arnold, and was five minutes, perhaps, in examining it.

Cross-Int. 71. When did you next see it?

Ans. Yesterday.

Cross-Int. 72. How long did you then examine it?

Ans. I examined it a few minutes, not long.

Cross-Int. 73. Who was present when you examined it day before yesterday beside Mr. Arnold?

Ans. There was no one; I was just leaving my shop at the time he came in; I think I am mistaken in the day; I think it was on Tuesday night, at about six o'clock.

Cross-Int. 74. Do you recollect whether the barrel and cylinder of the pistol shown you by Harrington were bright or brown?

Ans. I think it was brown.

Cross-Int. 75. Do you recollect the sized ball it carried?

Ans. I do not.

Cross-Int. 76. Do you recollect whether it had a guard over the trigger?

Ans. It had.

Cross-Int. 77. Do you recollect whether it had a ring in the stock like the model produced?

Ans. I think it had no ring in the stock.

Cross-Int. 78. Do you recollect how the proportions of the several parts compare with those of the model here produced?

Ans. The barrel, I think, was shorter than the model; the cylinder and guard-plates were about the same as the model.

Cross-Int. 79. So near as you can recollect, was the size of the bore of that barrel and of the steel shells in that pistol about the same as the bore of the barrel and steel shells of the model produced?

Ans. I should think they did not vary materially.

Cross-Int. 80. What was the workmanship of that pistol as to finish, compared with the workmanship of this model?

Ans. It was a good finished pistol, and compared favorably with that.

Direct resumed.

Int. 81. Please refer to the 79th cross-interrogatory and answer, and state whether you mean to be understood that the bore of the barrel and the bore of the steel shells in the model produced exactly correspond. State whether you have examined the model with particular reference to that.

Ans. I should judge they did not vary materially from that; I have not examined the model with particular reference to that; I haven't examined the cartridge-shells with the bore of the barrel to [be] able to state whether they are exactly of a size or not.

Int. 82. *De bene esse*.—How long had you had in your possession the iron balls referred to in the cross-examination, when Mr. Harrington took them?

Ans. Well, I couldn't state; I might have had them a fortnight, and I might have had them longer; I couldn't state exactly.

Int. 83. You say that you went to work with Mr. Dixey directly after

Mr. Harrington left for California; why directly after; what had his leaving to do with your going to work with Mr. Dixey?

Ans. Mr. Harrington leaving had nothing to do with my going to Mr. Dixey's; Mr. Dixey was in the manufacture of wrenches at that time, and wanted a person to take charge of his shop, and hired me for that purpose.

Int. 84. How long before Mr. Harrington showed you the pistol in 1842 had he been living elsewhere, or travelled elsewhere, and how long had he been absent?

Ans. He had been absent from Worcester for two or three years before 1842; he returned in March or April of that year.

Int. 85. Was he absent from Worcester between 1842 and the time of his going to California; and if so, where was he, and how long was he absent?

Ans. Not to my knowledge.

Cross resumed.

Cross-Int. 86. Do you know where Harrington was during his absence from Worcester prior to 1842?

Ans. I don't know from my own knowledge; my recollection is that he left for California in May or June, 1850.

GEO. C. TAFT.

Sworn to and subscribed before me, this 30th May, 1862.

R. E. STILWELL, *Examiner.*

DEPOSITION OF THOMAS H. RICE.

Thomas H. Rice, being duly called and sworn on part of defendants, deposes and says:

Int. 1. What is your name, age, residence, and occupation?

Ans. Thomas H. Rice; 59 years of age; reside at the city of

Worcester, State of Massachusetts; my present occupation is horse-shoeing.

Int. 2. How long have you resided in Worcester?

Ans. Since 1829 or 1830.

Int. 3. Did you ever know Jubal Harrington, formerly of Worcester, and when did you know him?

Ans. I knew him from about 1830 to 1850.

Int. 4. Did he ever show you in Worcester a pistol of peculiar construction? if so, state when it was as nearly as you can, and where in Worcester it was.

Ans. He showed it to me at my house; I can't tell you when it was; it was somewhere about 1842; I may be two years out of the way; I had married my second wife in 1840, and had been married to her two or three years, and was putting up lightning-conductors, and in the fall of 1844 I went in the grocery business, and it was before I went into the grocery business.

Int. 5. What business were you engaged in during the interval between your second marriage and your going into the grocery business?

Ans. I put up lightning-conductors in the summer season, and in the forging of woolen machines for Henry Golden.

Int. 6. What was your condition, during that interval, as to surplus means or capital?

Ans. I hadn't a great deal of surplus means; I had a few hundred dollars and some real estate.

Int. 7. What time of day did Mr. Harrington come to see you at your house, how long did he remain with you, and to what did your conversation relate?

Ans. On the edge of the evening, after lighting up, and remained with me, I should think, three or four hours; he had a pretty long visit; our conversation, as far as I recollect, was principally upon the subject of the pistol, or the barrel-loading arm.

Int. 8. Did he show you a pistol?

Ans. Yes, sir.

Int. 9. Can you describe its general structure and mode of operation?

Ans. It had a cylinder with several chambers, which revolved; these

chambers were drilled through to receive the cartridge in the rear; I can't say more than it revolved and came in contact with the barrel.

Int. 10. How do you mean came in contact with the barrel? Please explain.

Ans. In order to discharge any one of the cylinders or any one of the bores; I don't know that I have used the right term; I couldn't describe the construction of the lock.

Int. 11. What I ask you is, how you mean the cylinder with the chambers through it came in contact with the barrel; what do you mean by contact?

Ans. I mean to say that they came in contact in the same way, and apparently by the same means, as in the model I have seen here marked "Jubal Harrington."

Int. 12. Please examine such model, now shown to you, and specify how much of it you recollect as being like the pistol Harrington showed you; mention the parts which correspond.

Ans. The cylinder and the barrel correspond; that is about as much as I know about it.

Int. 13. Do you remember about the rear end of one or more of the chamber openings in the cylinder being exposed as the cylinder rotated, and the purpose or effect?

(Objected to as leading.)

Ans. I do; Mr. Harrington had a cartridge of some kind, I could not say what, that was used, I mean blank, that we slipped in and out into the cylinder in the rear.

(The witness here takes the model here produced, and slips one of the shell cartridges in and out of the chambers at the rear, and says:)

We operated his in the same way, in the same manner, similar, as near as I can recollect.

Int. 14. How were the cartridges which were so inserted into the chambers discharged from them?

Ans. By revolving of this cylinder; I can't tell whether they used a percussion cap or not; I don't recollect.

Int. 15. Revolving the cylinder for what purpose?

Ans. Discharging.

Int. 16. When the charge was inserted in the chamber, for what purpose was the cylinder rotated in order to discharge it?

Ans. It was rotated, I suppose, in order to bring the cartridge before the barrel, and opened another hole and brought another round to receive the cartridge.

Int. 17. What do you mean by opening another hole to receive a cartridge?

Ans. If my recollection serves me right, I think it would not take but one cartridge without the cylinders moving. Every turn the cylinders moved it opened the way to receive another cartridge.

Int. 18. Will you please state whether you see anything in the model marked "Jubal Harrington" which conflicts with or differs from what you remember of the Harrington pistol?

Ans. I don't see anything that I could say conflicts, and still there may be; my recollection is not perfect; some things I remember about it, and some I do not; I mean to say that my recollection is not perfect about this model or the one he showed me; it is a good many years since.

Int. 19. But how is your recollection as to the general features you have mentioned of the revolving cylinder, the chambers cut through so as to load at the rear, and the single barrel in front for the discharge?

Ans. From my best recollection I should think it identical with the model.

Int. 20. Was the pistol before you or in your hands, and how much during the evening conversation between you and Mr. Harrington, and was it operated by you or him during that interview, and how much?

Ans. It was operated by Mr. Harrington and by me. It laid on the table a portion of the time; I can't tell how many times I operated it, or how many times he operated it.

Int. 21. What was the substance of the conversation between Mr. Harrington and yourself? I mean, what did he want you to do, if any thing?

(Objected to as leading.)

Ans. He offered me an interest in the invention, if I would furnish money to patent it, and introduce it.

Int. 22. Did you decline, and why?

(Question withdrawn.)

Int. 23. In what class of arms, if any, did he particularly express a disposition to apply the invention?

Ans. He thought the great value of the invention would be in applying it to heavy ordnance.

Int. 24. Did you decline engaging with him, and why?

Ans. I did decline undertaking to carry it through in consequence, I thought, I had not means to carry it in successful operation, or bring it successfully before the public.

Int. 25. Do you mean by carrying it into successful operation, and by bringing it successfully before the public, the same thing, or different thing?

Ans. I merely mean to say, that the expense of patenting it, and bringing it before the public, exceeded my means, or would have exceeded my means.

Int. 26. You say, from your recollection as to the general features of the revolving cylinder, the chambers cut through so as to load at the rear, and the single barrel in front for the discharge, you should think the Harrington pistol identical with the model in those respects, but you say your recollection is not perfect about the model, or about the pistol Harrington showed you. Confining yourself to the general features I have just mentioned, is your recollection of them perfect or imperfect?

Ans. I mean to say that my recollection of the cylinder and the barrel, and the method of putting the cartridges in, being applied in the rear, I do recollect distinctly; everything else connected with it I would not attempt to describe, as they were immaterial to me at that time; those were the material things that we discussed at the interview I had with Mr. Harrington.

Cross-Interrogatories.

Cross-Int. 27. During the time you have been giving your testimony in this case, has the model of the pistol marked "Jubal Harrington" been lying before you on the table at which you have been sitting?

Ans. It has, a portion of the time, certain.

Cross-Int. 28. In applying this invention to heavy ordnance, as proposed by Mr. Harrington, did he state to you anything as to how that it would be necessary to make the steel-shell cartridges?

Ans. I don't know that he did; I don't recollect it if he did; it is a good time ago; I don't recollect much about it; I recollect some things.

Cross-Int. 29. Did it occur to you, in that conversation, that they might burst, if not made pretty thick?

Ans. I don't know that the thickness itself was a point; but I had fears that it could not be put into practical use, being new to me at that time; I don't know but the first breech-loader I ever saw.

Cross-Int. 30. You say that your recollection is distinct only as to the barrel, cylinder, chambers, and loading in the rear; can you positively swear that he exhibited to you at that interview a complete pistol, organized with a lock and stock?

Ans. Well, I should say so, sir.

Cross-Int. 31. Do you recollect how the cylinder was turned, in order to get the shell-cartridge in?

Ans. I couldn't tell; I couldn't tell whether it was turned by a thumb, or by a spring, or how.

Cross-Int. 32. Can you tell whether the cylinder was to be turned for any purpose other than by the thumb or by a spring?

Ans. I don't know that it was; I couldn't describe the method of turning it.

Cross-Int. 33. Do you recollect whether there was anything in front of the cylinder on that pistol beside the barrel of it?

Ans. I don't know that I can answer that; I couldn't say.

Cross-Int. 34. Do you remember whether, in that pistol, as you saw it arranged, it would be necessary to discharge the steel-shell cartridge, opposite the barrel, before you could put another cartridge into either of the other chambers of the cylinder.

Ans. I understood, from what I see, that the great value of it was — if there was any value in it — in being able to fill up all the chambers of the cylinders before discharging either of them.

Cross-Int. 35. You did not see the pistol discharge, did you?

Ans. I never saw it discharge; I never saw it but once.

Cross-Int. 36. Who were you working for at the time you had this conversation with Mr. Harrington?

Ans. I was putting up lightning-rods on my own account; I forged machine for Henry Golden by contract; I kept some help.

Cross-Int. 37. Do you recollect the length of that cylinder you saw on that pistol?

Ans. I couldn't tell; no, sir.

Cross-Int. 38. Did he tell you where it was made?

Ans. Not that I know of.

Cross-Int. 39. Had you ever before seen a pistol with a cylinder that revolved, having several chambers in it?

Ans. I had never seen one before; it was the first one I ever saw.

Cross-Int. 40. Had you ever before seen a pistol like Colt's?

Ans. No, sir.

Cross-Int. 41. What led you to call the holes in this cylinder chambers?

Ans. Perhaps it was for the want of mechanical education.

Cross-Int. 42. Did you continue to meet Harrington from time to time, after this conversation occurred, until he left Worcester?

Ans. Well, I suppose that that would imply whether I had been in trouble; I met him occasionally, and spoke to him as I would to other gentlemen whose business was one thing and mine another; but don't recollect that we ever spoke on that subject afterward.

T. H. RICE.

Sworn to and subscribed before me, this 30th day of May, 1862.

R. E. STILWELL,

Examiner, etc.

Adjourned to 10 A. M., the 31st inst.

DEPOSITION OF RODOLPHUS C. EDWARDS.

SATURDAY, May 31st, 1862.

Counsel on both sides present.

Rodolphus C. Edwards, being called and sworn on part of defendants, deposes and says :

Int. 1. What is your name, age, residence, and occupation ?

Ans. Rodolphus C. Edwards, 48 years of age, reside in Boston, and am in the commission business.

Int. 2. Did you ever reside in Worcester, and at what time ?

Ans. I resided in Worcester from 1835 to 1859.

Int. 3. While residing there were you acquainted with Jubal Harrington, now of California, and how well ?

Ans. I was well acquainted with Jubal Harrington from 1837 till he went away to California.

Int. 4. Did Harrington, while you lived in Worcester, ever show you there a pistol of peculiar construction ?

Ans. He did.

Int. 5. At that time, what was your business in Worcester, and where did you carry it on ?

Ans. In the grocery business, at that time, and in Washington Square.

Int. 6. At what place in Worcester did Harrington show you the pistol above referred to ?

Ans. At my store in Washington Square.

Int. 7. How long an interview did you have, if you can remember, on that occasion, and what purpose, in coming to you, did Mr. Harrington express ?

Ans. I had various interviews ; I saw Mr. Harrington a number of times exhibiting this arm in my store ; I don't remember the length of the interviews particularly ; at one time we discharged the pistol two or three times ; three times, I think.

Int. 8. When he first came to see you about it, what purpose did he express ?

Ans. He wanted to get some of his friends to assist him; I was one, and he asked me to help him; he wanted to get it patented, with the intention of manufacturing, if he could raise funds sufficiently.

Int. 9. Will you describe the principal operating parts of this pistol as well as you can?

Ans. It was a revolving pistol or cylinder, with a barrel attached; it loaded in the rear; it loaded on the side; it was put in at the side, in a little case; when they come to shoot it off, this charge they put in here came up to the top, where the barrel was; it discharged itself with a cock, similar to other pistols, on the top, striking on a cone that came out of this case.

Int. 10. What was put in, in a little case at the side?

Ans. He called it a cartridge.

Int. 11. Please describe, as well as you can, the cylinder and its construction?

Ans. I should think it was two inches long, five or six holes, I don't remember which — think it was one or the other — bored through it; then it was attached to a stock and to a barrel; this end of the stock next to me was made as large or larger than the cylinder; on the side of this plate or stock was the notch cut in, giving a chance to put in these tubes into the cylinder.

Int. 12. What tubes?

Ans. The charges, the cartridges.

Int. 13. How was the cylinder rotated, if you remember?

Ans. I think by cocking it turned the cylinder.

Int. 14. The charges being inserted, what was the effect of rotating the cylinder?

Ans. It brought the charge up under the cock or hammer; it brought it up to the top of the barrel, or pistol, and took it away from this notch.

Int. 15. Through what was the cartridge then discharged?

Ans. Through the cylinder and barrel.

Int. 16. How many barrels, if more than one, had this arm?

Ans. It had one barrel beyond the cylinder.

Int. 17. Should you recognize a pistol made like that one, if now exhibited to you?

Ans. I think I should.

Int. 18. Please examine the pistol labeled "Jubal Harrington," now exhibited to you, and say in what respects it resembles or differs from the Harrington pistol shown you by him?

Ans. This is a better pistol than that one — made stouter; the cartridge-shells he had were lighter; the barrel is a little longer than Harrington's, a better stock on this, and finished better; his was colored brown — the metal, I mean; in the model it is bright; it worked very much like this; the notch in the back plate to admit the cartridge-shell was made wider than this, and was made on a circle, and didn't hoop around as much as this.

Int. 19. In the Harrington pistol, how many of the holes through the cylinder were exposed at the rear by the cutting away, as you have described, of the back plate?

Ans. One.

Int. 20. You have described certain particulars of difference between this model and the Harrington pistol, as you remember it; with these exceptions, what do you say as to the resemblance or difference of the two?

Ans. I think they look very similar in their appearance in general.

Int. 21. Please examine it, and say whether, with the exception of the differences you have mentioned, you believe the model before you to be like or unlike the Harrington pistol in construction and operation.

Ans. I think that the guard is different; the barrel, cylinder, and cock, and the back plate, are very like that, and operate in the same manner that they did.

Int. 22. Do you perceive any difference, and what, if any, between this model and the Harrington pistol, in regard to the construction and arrangement of the cylinder, barrel, back plate, and cock?

Ans. The arrangement I should think was the same, but this is a better made pistol.

Int. 23. Was the construction and arrangement of the parts I have named the same or not?

Ans. They are the same in that as in this model.

Int. 24. Will you state, as nearly as you can, the time when Harrington first showed you the pistol?

Ans. It was either in 1842 or 1843.

Int. 25. In the course of the several exhibitions of this arm at your store, on that and the subsequent occasions you have mentioned, was the pistol charged and fired in your presence, and by whom?

Ans. It was fired in my presence, and loaded by Mr. Harrington. He fired it the first time, and Mr. Knapp, my clerk, fired it once, and I fired it the third time.

Int. 26. With the exception of the Harrington pistol and the model before you, have you ever seen cylinder pistols charging at the rear end; and if so, what?

Ans. I have never seen one charged at the rear except it was this or the Harrington — not through the plate in this way. I have seen one with a hinge at the breech to open it lately, but not to go through the plate.

Int. 27. With the exception of the Harrington pistol and this model have you ever seen a revolver in which the charges were inserted in the cylinder at the rear?

Ans. This one that I speak of was a revolver after it was shut up, but you couldn't load, as you can this, through the plate. You couldn't load it without unbining it.

Int. 28. Besides yourself and Mr. Knapp, whom you have mentioned, can you give the names of any other persons to whom you think Mr. Harrington exhibited his pistol at your place?

Ans. William R. Wesson was present at one time; James Davis, and another Davis, Hiram Davis.

Int. 29. Have you any knowledge of Harrington's making, or procuring to be made, any other arm or parts of an arm, subsequent to this, like his pistol? If so, please state what you know about it.

Ans. He made a part of a gun. He made the cylinder and barrel, and put them together, but he had no stock on it. He had the back plate also. It was so that he fired it.

Int. 30. How did he fire it?

Ans. He struck the cap with a little hammer.

Int. 31. What was Harrington's pecuniary condition during the time when the pistol was exhibiting in Worcester, and when the parts of a gun you speak of were made?

Ans. He was very poor.

Cross-Examined by Mr. Stoughton, Complainant's Counsel.

Cross-Int. 32. Where did you first see the model now before you?

Ans. I don't remember how long it is; I have seen it within a month—a week or two ago.

Cross-Int. 33. Who exhibited it to you?

Ans. Mr. Arnold.

Cross-Int. 34. Who is Mr. Arnold?

Ans. I don't know the gentleman particularly.

Cross-Int. 35. Where did he exhibit it to you?

Ans. In Boston.

Cross-Int. 36. Did you then examine it carefully?

Ans. I looked at it a few minutes—five minutes or so.

Cross-Int. 37. When did you last see the pistol exhibited to you by Harrington?

Ans. Well, it was that same season that I first saw it. I don't think I saw it after that season.

Cross-Int. 38. Did you see the part of a gun more than once?

Ans. I think I did. He left it in my place of business, in my desk. It wasn't stocked. He left it there some days—occasionally he would bring in somebody to exhibit it to—and then he took it away.

Cross-Int. 39. Did you ever see the pistol fired more than the three times you have mentioned?

Ans. I think I did. He was there with it a number of times, and shot it once—only once.

Cross-Int. 40. Did you see Harrington from time to time till he left Worcester?

Ans. I did.

Cross-Int. 41. Frequently?

Ans. Yes, sir.

Cross-Int. 42. This part of a gun was showed you after he first showed you the pistol, was it not?

Ans. It was.

Cross-Int. 43. Do you know who made that pistol, or that part of a gun you saw?

Ans. I do not. I don't remember that I ever heard Harrington say.

RUDOLPHUS C. EDWARDS.

Sworn to and subscribed before }
me, this 31st May, 1862. }

R. E. STILWELL,
Examiner, etc.

Adjourned to Tuesday, the 3d June, at 11 A. M.

Adjourned to Wednesday, the 4th of June, at 11 A. M.

Adjourned to Thursday, the 5th of June, at 11 A. M.

Adjourned to Friday, the 6th of June, at 11 A. M.

DEPOSITION OF AUGUSTUS REBETHEY.

FRIDAY, June 6th, 1862.

Counsel on both sides present.

Augustus Rebetey called and sworn on behalf of defendants.

Int. 1. What is your name, age, residence, and occupation?

Ans. Augustus Rebetey, 41 years of age, reside in Newark, New Jersey, and am a gunsmith.

Int. 2. Please look at the model now shown you, labelled by the Commissioner, "Jubal Harrington," and say if you ever fired it, and when and where, and describe all that you did?

Ans. I fired it on the 26th of May last, at our shop in Newark. I fired it twice around; in all, twelve charges.

Int. 3. Did you load the six chambers each time before proceeding to fire?

Ans. Yes, sir.

Int. 4. How did the arm operate in that trial?

Ans. It did operate very well. It had no obstruction.

Int. 5. How did it operate as compared with revolving cylinder pistols loading at the rear, such as are in common use?

Ans. It operated as well as any one in use at the present day.

Cross-Examined by Mr. Sloughton, Counsel for Complainants.

Cross-Int. 6. Who brought to you this pistol for the purpose of having you fire it?

Ans. Nobody.

Cross-Int. 7. Where did you get the pistol?

Ans. Mr. Arnold told me to make a pistol of such a description, and I did.

Cross-Int. 8. Didn't you alter that model from a foreign-made pistol?

Ans. I cannot tell whether it was foreign. It looked like a foreign-made pistol.

Cross-Int. 9. By whom was this Mr. Arnold employed?

Ans. By the Manhattan Company, who make the pistols that defendants sell. After I had altered the pistol, I took it down voluntarily and fired it.

AUGUSTUS REBETÉY.

Subscribed and sworn to before }
me, this 6th June, 1862. }

R. E. STILWELL,

Examiner, &c.

DEPOSITION OF ANDREW R. ARNOLD.

Andrew R. Arnold, called and sworn on part of defendants.

Int. 1. What is your name, age, residence, and occupation?

Ans. Andrew R. Arnold, 53 years of age, reside at Newark, New Jersey, and am the general superintendant of the Manhattan Company's mechanical business.

Int. 2. Have you examined at the Patent Office, Washington, the model upon which the patent sued upon by the plaintiffs in this case was granted?

Ans. Yes, sir.

Int. 3. Is it a working arm?

Ans. No, sir.

Int. 4. Has it any barrels; if not, anything in lieu of barrels, and if so, what?

Ans. It has no barrel in the full sense of the word. It has a piece of solid wood, whittled out to resemble a round barrel: the wood was not bored through.

Int. 5. Have you examined a certified copy of the patent sued upon in this case, and do you understand the construction and operation of the arm therein described?

Ans. Yes, sir.

Int. 6. In your judgment, is the arm there described and represented capable of being practically used; and if not, state why not.

Ans. I think it not. The reasons why not, from any known cartridge known by me at the present time, applicable to this construction, would, if fired, produce a lateral fire to endanger the explosion of all others in the cylinder at the same time, and if, in case the cylinders are filled full of charges the lateral fire would discharge one chamber which has no shield or protection, or preventing the charge passing back into a man's breast, face, or eyes, in which relative position he might at the time be holding the pistol. Also if using the magazine, the lateral fire would make it somewhat liable to explode that also. In each discharge there would have to be a new cap put on to the cone, and very probable it would blow the front shield from off the cylinder. In case they

should be fortunate enough to fire one rotation of the cylinder, then the paper or linen which contained the powder would be left within the chambers, so as to obstruct the second set of charges from entering, or the friction of the ball in passing into the chamber would slide the paper or cambric out of the front end of the cylinder, so as to obstruct the rotation of the cylinder when the chamber was being brought up in line of barrel for fire.

Int. 7. In your judgment, to what extent or how long could the arm be used without accident from the communication of the lateral fire at the rear, as you have described.

Ans. I think very probably the first discharge would do it.

Int. 8. Did you procure the attendance for the Manhattan Company of the witnesses Edwards and Rice, who have testified in this case in reference to the Harrington patent?

Ans. I went and saw them on the subject.

Int. 9. Did you obtain from them an oral description of the pistol which had been shown them by Harrington?

Ans. I did, sir.

Int. 10. Was that before or after the model marked "Jubal Harrington" was shown to them?

Ans. It was before.

Int. 11. How full and how accurate was the description so previously given by them?

[*Objected to.*]

Ans. So far as barrel, shield, front and back, cylinder, tubes, cones, manner of firing; exact, precise, and definite.

Cross-Interrogatories by Mr. Stoughton.

Cross-Int. 12. How long have you been the superintendent of the Manhattan Fire-Arms Manufacturing Company?

Ans. From eighteen to twenty-four months; can't say exactly; I was before that in their employ as a contractor to make parts of pistols, and commenced three years ago the third day of this month.

Cross-Int. 13. During the time you have been in the employ of that company, what kind of fire-arms have they manufactured?

[*Objected to.*]

Ans. They have manufactured all pistols.

Cross-Int. 14. Look at the pistol now produced, and upon a label attached thereto marked "Complainants' Model, June 6th, 1862," and state whether that pistol was manufactured by the company you have mentioned, and state also whether the pistols by them manufactured during the time you have been in their employ have been made substantially like that pistol.

[*Objected to.*]

Ans. This pistol has the appearance of being made there, and a portion of the pistols have been made substantially on that plan; probably the proportion made on that plan does not exceed three-eighths of all made.

Cross-Int. 15. About how many pistols have been made by that company during the three years you have been in their employ? State as near as you can estimate.

[*Objected to.*]

Ans. I should think, probably, since I have been in their employ, of all kinds of cylinder pistols we have made, about sixteen thousand, about three-eighths of which were upon the plan of model produced.

Cross-Int. 16. To whom have the pistols manufactured by this company been delivered or sent for sale?

[*Objected to.*]

Ans. I could not answer; it does not come under my department.

Cross-Int. 17. Under whose department does that come?

Ans. Pistols are generally sent away by order of Mr. Beach.

Cross-Int. 18. What kind of cartridge is the pistol produced and marked designed to use?

[*Objected to.*]

Ans. It is what is termed the metallic cartridge, made of copper; that is all I have ever seen.

Cross-Int. 19. Did you ever see a working pistol made in conformity

with the specification and drawings of Rollin White's patent, to which your attention has been called on your direct examination?

Ans. No, sir.

ANDREW R. ARNOLD.

Subscribed and sworn to before }
me, this 6th June, 1862. }

R. E. STILWELL, *Examiner, etc.*

Andrew R. Arnold recalled, on part of defendants.

Int. 20. Please compare the method of loading practiced by Harrington, and that practiced by the plaintiffs, as shown in their model produced here, and that shown in Rollin White's patent. Point out the practical differences between these methods in regard to security from lateral fire; take them in order, beginning with the method shown in the patent.

Ans. The cartridges which I described yesterday as being the ones which I had seen adapted to a model, and drawings of Rollin White's patent, the covering of the cartridge would be made either of paper or cambric to hold the powder and ball in the desired position, would be required in the size of diameter so as to be a free and loose fit to the size of the chamber in the cylinder, for the purpose of sliding it into the chamber, to avoid bursting open the rear portion of the cartridge by pressing it into the cylinder, then when fixed the cartridge exhibits a combustible surface, to come in contact with the lateral fire from the front and rear end of cylinder. Also the looseness of the fit within the chamber would allow the lateral fire to pass between the cartridge and the surface of the chamber from end to end. The complainants' model marked "June 6th, 1852," is loaded from the rear by the use of a cartridge made as follows: a copper tube with a small head on one end, inside and at the head a portion of fulminating powder and a small ward, and filled nearly full with common gunpowder, and a ball on the top of the powder, a portion of it pressed within the end of the tube, for the purpose of making it gas-tight, and to protect it from the influ-

ence of ignition by the lateral fire at the front end of the cylinder, cartridge being entirely protected by a metallic covering. By the striking of the hammer on the head of the cartridge, explosion is produced. The Jubal Harrington pistol has tubes made of steel, near the rear end having a cone inserted which receives a cannon percussion-cap; in the muzzle of the tube is poured gunpowder nearly full, then a ball is placed on the top of the tube, rammed down on the powder, making a gas-check joint, meantime expanding the tube, so that when it is put into cylinder it causes the tube to be compressed to more perfectly form the gas-check joint between the inside the tube and ball, also forming a gas-check between the tube and side of the chambers, and the action of the hammer striking on the cap produces explosion of the cartridge in the line of the barrel, while a lateral pressure of the explosion produces an expansion of the tube, so as to make an effectual check from any lateral fire passing from the front end of cylinder to the rear end through the chamber; the back end of tube all solid, to avoid any escape of gas through the butt end.

ANDREW R. ARNOLD.

Subscribed and sworn to before me, this 7th June, 1862.

R. E. STILWELL, *Examiner, etc.*

Adjourned to Monday, 9th inst., at 11 A. M.

TESTIMONY FOR RESPONDENTS.

CIRCUIT COURT UNITED STATES, }
 Massachusetts District. } ss.

OCTOBER TERM, April 6th, 1863.

In Equity.

ROLLIN WHITE, AND ALS., *vs.* ETHAN ALLEN, AND AL.
 SAME *vs.* E. A. PRESCOTT.

Upon the application of both parties above named and for special reasons stated to the Court—It is Ordered, that N. A. Parks, Esq., of Boston, be and he is hereby appointed Examiner in these causes to take the evidence of the witnesses to be examined therein, pursuant to the amendment of the sixty-seventh Rule in Equity, adopted by the Supreme Court of the United States, on the seventeenth day of March, 1863. Such examination, when concluded, to be duly authenticated and transmitted by him to the office of the Clerk of this Court, as directed by such Rule of Court.

By the Court.

A true copy. Attest:

H. W. FULLER, *Clerk.*

Attest:

H. W. FULLER, *Clerk.*

UNITED STATES CIRCUIT COURT, }
 Massachusetts District, } ss.

OCTOBER TERM, 1862.

In Equity.

ROLLIN WHITE ET ALS., *vs.* ETHAN ALLEN ET AL.
 SAME *vs.* E. A. PRESCOTT.

Pursuant to an order of this Honorable Court, a copy of which is hereunto annexed, upon certain days appointed for the purpose, I caused the witnesses, Wm. C. Hibbard, Charles Folsom, Luke Wheelock, John C. Howe, E. A. Prescott, Chas. Kirby, Hervey Waters, Joab Hapgood, John P. Lovell, and H. B. Renwick, to be brought before me, and examined in behalf of the Respondents in certain causes now pending in the aforesaid Court, and entitled as above.

Each witness, while present before me, was examined carefully, on oath, touching the premises, and such examination was by me reduced to writing, and subscribed by each of said witnesses, in my presence, and is herewith returned.

Both parties were present by their Counsel, and the examination and cross-examination was conducted by oral interrogatories, according to agreement.

N. AUSTIN PARKS, *Examiner.*

DEPOSITION OF LUKE WHEELOCK.

Luke Wheelock, a witness produced by Respondents, being duly sworn, doth depose and say in answer to interrogatories proposed to him by Causten Browne, Esq., Counsel for the respondents, as follows, to wit:

Int. 1. What is your name, age, residence and occupation?

Ans. My name is Luke Wheelock; age, 34; residence, Worcester, Mass.; occupation, gun-maker.

Int. 2. How long have you been engaged in the manufacture of fire-arms, and of what kinds?

Ans. For sixteen years; most all kinds.

Int. 3. Have you ever had occasion to make new kinds of breech-loading arms?

Ans. Yes, sir.

Int. 4. From what sort of description, or by what other assistance, did you make them?

Ans. I have made revolvers, double guns, breech-loading rifles.

Int. 5. Have you made new kinds of breech-loading arms from mechanical drawings?

Ans. Yes, sir.

Int. 6. How often have you occasion, in your business, to make fire-arms, or parts of fire-arms, from mechanical drawings?

Ans. I should say five or six times in the course of a year.

Int. 7. Have you examined the specification and drawings of a certified copy of Mr. Rollin White's patent of April 3d, 1855, No. 12,648, for an improvement in repeating fire-arms, and how long an examination in all, and how thorough, have you given it?

Ans. I have. I should think I had examined it six or seven hours in all. I think I've examined it enough to know pretty near my own opinion of it.

Int. 8. Do you understand the construction and operation of the arm which is there described and represented so far as any description or representation is given?

Ans. I think I do.

Int. 9. What is your judgment as to the sufficiency of that specifica-

tion and drawing to teach a skilful pistol-maker how to construct a revolving cylinder arm with chambers bored through so as to load at the rear as there shown, which can be operated in practice with efficiency or safety?

Ans. It is poor.

Int. 10. Does it or not, in your judgment, *teach* such a man how to make such an arm?

Ans. It does not.

Int. 11. What are the practical difficulties in the construction and operation of the arm there shown and represented? Why cannot an arm constructed as there shown, be operated with efficiency or safety?

Ans. I think that in shooting the cartridge through the barrel you would be liable to fire the others nine times out of ten. And in firing those I think it would be unsafe. It would be as liable to come back in the face. I don't see how a man could make the pistol so as to have it operate, in the first place: that is to *shoot* it. The face-plate in front,—if the other barrels explode, it must blow it to pieces.

Int. 12. You speak of danger of coming back in the face. Would there be such danger with a recoil shield or back-plate?

Ans. There would, if blown up. In case you fire those other charges, except the one in the barrel, they must blow up.

Int. 13. Please explain why the other charges in the cylinder would be liable to explosion when the charge in the line of the barrel was exploded.

Ans. From the gas from the powder,—flame of fire that comes from the cap of the barrel exploded.

Int. 14. When the cap is exploded by the hammer, and the flame from it ignites the powder in the chamber in the line with the barrel, what takes place? What does the fire do? Which way does it go?

Ans. It goes back, strikes the recoil-plate, and then ignites the powder in the other barrels.

Int. 15. Suppose it does so ignite the powder in the other barrels and explode the other charges at the same time, what would be the effect upon the pistol constructed as shewn in the patent—that is, with the front plate, or guard, there shewn?

Ans. It must blow it to pieces.

Int. 16. What cartridges, if any, have you ever known which would permit the flame from the percussion cap to pass to and ignite the charge in the line of the barrel, and not permit the flame from the explosion of that charge to drive back again against the recoil-plate so as to endanger the explosion of the other charges as stated?

Ans. I do not know of any.

Int. 17. What experience have you had in regard to the operation and discharge of fire-arms by which you can form a judgment as to the possibility of constructing such a cartridge?

Ans. I've had a good deal of experience in making fire-arms of different kinds.

Int. 18. Have you had any experience, and how much, in discharging such arms and in observing the action of the flame?

Ans. Yes, sir, I have, a great deal.

Int. 19. What is your opinion as to the possibility of making a cartridge which shall admit the flame from the percussion cap to the charge in the chamber, and prevent the flame from the explosion of that charge from coming back against the recoil plate?

[*Objected to.*]

Ans. I think you couldn't do it with that pistol; couldn't make the cartridge.

Int. 20. Suppose the chambers in the White pistol loaded with powder and ball, and the rear ends of the chambers closed by leather wads or plugs, each having a hole drilled through the centre of it tapering inward,—that is, with the hole larger at the back end than at the front, for the purpose of admitting the flame from the percussion cap to the charge,—what is your judgment as to the possibility of exploding the charge, in the line of the percussion cap and the barrel, without at the same time exploding the other charges?

Ans. I don't think you could do it.

Int. 21. What would be the effect of the fire passing through such hole upon the leather surface exposed to it?

Ans. It must burn it out larger.

Int. 22. Would it do anything more than burn it? If more, what more?

Ans. I don't think it would. I don't see how you could do anything more than burn it.

Int. 23. What is the effect upon the bore of a nipple, of repeatedly exploding a percussion cap over it, or the touch-hole of a gun?

Ans. To make it larger.

Int. 24. Is this by burning, strictly speaking?

Ans. Yes, sir.

Int. 25. Of what practical utility would a revolving cylinder pistol be, if loaded and discharged by means of a percussion cap and with charges and leather plugs or wads, such as I have described? Would such a pistol be good for anything in practice, and what?

[*Objected to.*]

Ans. I should say not.

Int. 26. What is your opinion of the safety of such a pistol to the person using it?

Ans. I should rather be the man to be shot at, than the one to use the pistol.

Adjourned April 7th, 1863.

Examination renewed 15th April, 1863.

Int. 27. Were you present at certain experiments yesterday, at Worcester, in the firing of a cylinder arm.

Ans. I was.

Int. 28. Will you look at the pistol now shown you, and marked "White pistol No. 1," with the signature of the examiner, and say how it compares in construction with that with which said experiments yesterday were made?

[*Objected to.*]

Ans. I should say there was no difference.

Int. 29. Do you mean no *substantial* difference, or do you mean that they are *identically* the same?

Ans. I mean that they are the same.

Int. 30. Who loaded and fired the arm yesterday?

Ans. Mr. Prescott loaded and fired it, and Mr. Howe, and myself.


Int. 31. Was any record made in your presence of the successive firings, and have you a copy of that record?

Ans. Yes, sir.

Int. 32. Do you know it to be a correct copy, and to represent correctly the result of the experiments?

Ans. I do.

Int. 33. Please produce such copy.

(Witness produces papers marked  N. Anstin Parks, Examiner.

Int. 34. Please produce, if you can, specimens of leather packing, just like what was used in experiments Nos. 1 and 5, mentioned in the record.

(Witness produces a string of leather packing, identified by the signature of the Examiner, and says:)

Ans. These are such specimens, some have been fired and some haven't.

Int. 35. Please state what difference, if any, there is between the leather packing used in experiment No. 1 and that used in experiment No. 5.

Ans. Those used in experiment No. 1, have straight holes through them, the others are flared out on the inside next the powder in the chamber.

Int. 36. Which are those that have been fired?

Ans. Those that are blackened or torn—six in all.

Int. 37. I see on the string of packing one which is made concave on one side and convex on the other; please state whether packing like that was used in experiments Nos. 1 and 5, or in a subsequent one.

Ans. It was used in a subsequent one.

Int. 38. How was it used?

Ans. It was used with loose powder and ball, the concave side of the packing inside next the powder in the cylinder.

Int. 39. Please examine that packing carefully and point out which side was put next the powder in the chamber.

(Witness examines the packing referred to, and says:)

Ans. The concave side.

Int. 40. Look at the copy of the record referred to and see if that experiment is mentioned there, and state which one it is.

Ans. No. 5. After examination I see I should have said No. 10.

Int. 41. In the paper I see it stated that the packing was used with the concave side outside. What does that mean? What is there meant by outside?

[*Objected to.*]

Ans. The end of the cylinder next to the recoil plate.

Int. 42. Was that the way it was used?

Ans. It was.

Int. 43. How many chambers were loaded in these several experiment?

Ans. Three.

Int. 44. Which of the three charges was placed in the line of the barrel before firing?

Ans. The middle one.

Int. 45. Will you produce cartridges like those fired in each of these successive experiments, Nos. 2, 3, 4, 6, 7, 8 and 9, and have them marked with said numbers respectively by the Examiner?

Ans. (Witness produced cartridges marked 2, 3, 4, 6, 7, 8 and 9 respectively, with the initials of the Examiner on each.)

Int. 46. Please describe, as fully as you can, the condition of the arm after each discharge, and before the cylinder was removed, and how the cylinder was got out.

Ans. It was all coated up between the cylinder and the face-plate with powder and fragments of lead between them. The cylinder was drove out with a hammer handle.

Int. 47. In the condition in which the arm was before the cylinder was driven out, could the cylinder be revolved by hand?

Ans. It could not. It was wedged in with lead and powder.

LUKE WHEELLOCK.

Subscribed and sworn to April 15th, 1863, before me.

N. AUSTIN PARKS, *Examiner.*

DEPOSITION OF JOHN C. HOWE.

John C. Howe, a witness produced by respondents, being duly sworn, doth depose and say, in answer to interrogatories proposed to him by Causten Browne, Esq., as follows, viz :

Int. 1. What is your name, age, residence, and occupation ?

Ans. John C. Howe ; age 43 ; residence, Worcester, Mass. ; occupation, worker on fire-arms.

Int. 2. How long have you been engaged at that trade, and what varieties of arms have you worked upon ?

Ans. Twenty-seven years, and some before, and on almost all descriptions — I don't know but all. A great part of the time I have been engaged on models — most of the time — and in trying experiments in that line.

Int. 3. Have you had occasion, and how frequently, to make models of arms from written descriptions or from drawings ?

Ans. Generally.

Int. 4. Have you examined, and if so, how thoroughly have you examined the specification and drawings of a certified copy of Mr. White's patent of April 3, 1855, No. 12,648, for an improvement in repeating fire-arms ?

Ans. I have, I have one at home. I have examined it frequently.

Int. 5. What is your opinion as to the sufficiency of the specification and drawings of that patent to enable a skillful pistol-maker to construct a revolving cylinder arm, with chambers bored through, so as to load at the rear, as there shown, and have it operate with efficiency or safety ?

[*Objected to.*]

Ans. I don't think it could be done without deviating widely from the specification and drawings. In fact, I don't think it could be understood enough to make an operating machine of it.

Int. 6. What is your opinion as to the practicability of making a

safe or efficient arm, with the chamber of the revolving cylinder open at the rear, and the fire communicated to the charge from a percussion cap, separate from the charge, or cartridge, as shown in the patent?

[*Objected to.*]

Ans. I think it would be almost sure to explode the other charges— (Is that what you meant to ask? — I don't know as I got the idea.)

Int. 7. Please explain why it would be almost sure to explode the other charges? Explain particularly and in detail what would occur.

Ans. First, the fire from the caps would not more than about one-eighth, I think, find its way into the cartridge; the other part would strike between the cylinder and face-plate, and find its way into the other holes in the cartridges, being confined between the cylinder and face plate. The effect would be to explode the other charges.

Int. 8. Of what practical use would such an arm be to the user?

Ans. The effect would be to blow the pistol to pieces, I should judge.

Int. 9. Are you acquainted with the different kinds of cartridges, which were commonly known before April, 1855, in this country?

Ans. Some of them.

Int. 10. Confining yourself to such cartridges as are pierced at the rear end, and with a hole for the admission to the powder charge of the flame from a percussion cap, what is your opinion as to the possibility of using any such cartridge in a cylinder pistol, with chambers opening at the rear, and exploded by a percussion cap outside, with efficiency or safety?

Ans. My experience has taught me that they are not practicable at all. I have tried the experiment many a time.

Int. 11. In your judgment, taking such a pistol as is shown in the White patent, that is, with the chambers open at the rear, and to be discharged by a percussion cap on the outside, is it practicable to use with safety any cartridge having a hole at the rear to admit the flame from the percussion cap, all the chambers being loaded with such cartridges at the time?

[*Objected to.*]

Ans. It is neither practicable nor safe.

Int. 12. What is your opinion as to the possibility of making a cartridge which shall admit the flame from the percussion cap to the charge in the chamber, and prevent the flame from the explosion of that charge from coming back again against the recoil plate, and igniting the charges in the other chambers?

Ans. By actual experience, I can say that I have failed to be successful in preventing the flame from going from one to the other, and exploding the other. I don't think it can be done.

Int. 13. Suppose the chambers in the White pistol loaded with powder and ball, and the rear ends of the chambers closed by leather wads or plugs, each having a hole drilled through the centre of it, and narrowing towards the front for the purpose of admitting the flame from the percussion cap to the charge, what is your judgment as to the possibility of exploding the charge in the line of the percussion cap and the barrel, without at the same time exploding the other charges?

Ans. I think, if the cap did n't explode the other charges, the charge re-acting back would.

Int. 14. Please explain what you mean by "the charge re-acting back"?

Ans. The fire coming through the hole in the leather wad between the face-plate and the cylinder, would be almost sure to find its way in to the other cartridges.

Int. 15. What is the effect in practice of the flame from the explosion of powder blowing out through an ordinary vent in a fire-arm?

Ans. It cuts it away very fast; the metal round the vent, or the material. Platina would stand a long time; fire forced through this vent, though leather, would enlarge the hole very much at one discharge.

Int. 16. Suppose such an arm operating in such a way, as I have suggested in the 13th interrogatory, would it be, in your judgment, of any utility as a fire-arm at all?

Ans. It would not.

Int. 17. Would such an arm be safe to the user?

Ans. No.

Adjourned 7th April.

April 16th, examination renewed.

Int. 18. Since your last examination have you witnessed some experiments at Allen & Wheelock's place, in Worcester, with a pistol said to be like White's patent?

[Objected to.]

Ans. I have.

Int. 19. What day was it and who conducted the experiments, that is, loaded and fired the pistol?

Ans. Tuesday afternoon last, (14th); myself and Mr. Luke Wheelock helped, and Mr. Prescott done the most of it.

Int. 20. What was done, if anything, to secure an accurate record of the result?

Ans. It was recorded on a piece of yellow wrapping paper, taken down at the time just after it was done; taken down after each discharge.

Int. 21. Will you produce such original record?

(Witness produces a paper identified by the name John C. Howe with the signature of the Examiner.)

Int. 22. How do you know such record to be correct, if it be correct?

Ans. I saw the experiments tried and saw it wrote down.

Int. 23. If there is any error or omission about it please state what it is.

Ans. I've read it over carefully and see no error in it as far as it goes. I see they have omitted one round, or one discharge, with the leather shoes or washers with the concave inside; this says outside; they were tried both ways. I refer to the leather shoes mentioned in experiment No. 10.

Int. 24. What was the result of these two experiments, one with the concave inside, and one with it outside, and how many chambers were loaded each time?

Ans. Three chambers loaded each time. All three exploded together each time.

Int. 25. Are you acquainted with the meaning of the terms breech-loader, loading at the breech, and loading by the breech, as commonly used among the pistol makers during the last fifteen years? If so,

state what these terms mean, and name some of the oldest and best known arms which they include.

[*Objected to.*]

Ans. I heard the testimony of Mr. Lovell and Mr. Hapgood, and I agree with them in their testimony. They include Hall's, Sharp's, and Colt's arms mentioned, with many other arms. I think they are all breech-loaders. All come under the same head.

Int. 27. Is there any difference between the terms breech-loading, loading at the breech, or loading by the breech, as applied to fire-arms during the last twenty years among pistol makers? If so, what is it?

[*Objected to.*]

Ans. No.

Int. 27. In regard to the pistol used last Tuesday at Worcester, in the experiments you speak of, how did it differ from that now before you, with a card attached, marked "White Pistol, No. 1, etc?"

Ans. I should say this was the one the experiments were tried with, only it is broken. I am sure it is the one.

And in answer to Cross-Interrogatories proposed to him by E. F. Hodges, Esq., Counsel for Complainants, deponent saith as follows, viz.:

Cross-Int. 1. Did you read the record of these experiments at the time each experiment was concluded, and the paragraph written?

Ans. I did, all but the last, No. 10.

Cross-Int. 2. Who wrote the record on this yellow paper you have produced?

Ans. Mr. Fairfield, Mr. Allen's book-keeper.

And in answer to Direct-Examination renewed by C. Browne, Esq., Counsel for Respondents, deponent saith as follows, to wit:

D. R. Int. 1. Where did the yellow paper lie with reference to yourself and Mr. Luke Wheelock and Mr. Prescott during the experiments?

Ans. On a counter in the room we tried the experiments in. On the same counter we loaded the pistol on.

D. R. Int. 2 State how far the place of firing was from the place of loading.

Ans. About ten feet.

D. R. Int. 3. How long was the counter?

Ans. About the same length.

D. R. Int. Was all done in one room, and how large was that room?

Ans. It was,—I should judge the room was about 22 by 20.

JOHN C. HOWE.

Subscribed and sworn to, the 16th }
day of April, 1863, before me, }

N. AUSTIN PARKS,
Examiner.

DEPOSITION OF EDWIN A. PRESCOTT.

Edwin A. Prescott, a witness produced by respondents, being duly sworn, doth depose and say, in answer to interrogatories propounded to him by Causten Browne, Esq., counsel for respondents, as follows, to wit:

Int. 1. What is your name, age, residence, and occupation?

Ans. My name is Edwin A. Prescott; age, 42; residence, Worcester; occupation, gun maker and pistol maker.

Int. 2. Have you heard the deposition of Mr. Wheelock, just given?

Ans. I have.

Int. 3. Please examine the cartridges which he has produced as samples of those fired experimentally at Worcester yesterday, and state by whom, or under whose direction, they were made.

Ans. They were made according to my directions and I did a portion of the work myself.

Int. 4. Please describe precisely the construction, of each one of them.

Ans. No. 2 is a leaden bullet with a paper shell or case with a

leather shoe in the rear of the cartridge with a hole through the centre; the case is filled with fine loose powder such as is used in the manufacture of cartridges.

No. 3 is a leaden bullet and copper case with a pasteboard butt, or shoe, or packing, filled with loose powder, as before.

No. 4 is a wooden case with a hole in the rear, filled with loose powder, as before.

No. 6 is a loaded leadon ball with a cork shoe or packing filled with loose powder, as before.

No. 7 is a paper case with a copper shoe or packing filled with loose powder, as before.

No. 8 is a hollow ball with a copper butt attached, with a small hole in the rear, the shell and ball filled with loose powder, as before.

No. 9 is a paper case with a leather shoe or packing filled with loose powder, as before.

Int. 5. Please examine the copy of record of experiments which is produced by Mr. Wheelock and marked "◇ N. Austin Parks, Examiner," and state whether the cartridges produced, and marked, and numbered, as you have just referred to them, correspond with the like numbers in the margin of the copy of the record.

Ans. They do.

Int. 6. Were you present at the experiments referred to?

Ans. I was.

Int. 7. Are the cartridges produced correct samples of the cartridges used in the several experiments, the numbers of which marked in the margin of the paper, marked "◇ etc.," correspond with the numbers of the cartridges produced respectively.

Ans. They are.

Int. 8. State how many chambers were charged, and which one of them was set in the line of the barrel, in each of these experiments.

Ans. Three chambers were charged, each time, and the centre one set in a line with the barrel.

Int. 9. Does the paper marked "◇ etc.," correctly shew the number of times which each kind of charge was so tried, and the result in each case?

Ans. It does.

Int. 10. How do you know it does?

Ans. It does with one exception. I saw the experiments tried. I tried them myself, in the presence of other parties. I directed the man to put them down on a sheet of brown paper. I saw it done, and know it is correct. In experiment No. 10, a leather packing was placed concave side next the powder instead of concave side outside.

Int. 11. Please state particularly the mode in which these experiments were conducted and what persons were present.

Ans. I loaded the pistol myself, each time, putting in three charges, placing the centre charge on line with the barrel. I then put on a percussion cap, screwed the pistol in a vise, and then by attaching a string to the trigger, fired it off. I went round the corner of the partition, after attaching a string to the trigger, and fired it off, by pulling the string. The persons present were John C. Howe, Luke Wheelock, a Mr. Erastus Keyes, a Mr. Miles, one, whose name I don't know, and, I believe, Mr. Browne was present during some of the experiments.

Int. 12. Please state particularly, the condition of the arm when removed from the vise, after each discharge, and what was done in order to prepare it for the next discharge?

Ans. Between the cylinder and the front part of the frame it was choked up with lead, so much so, that I was obliged to use the end of a hammer handle for the purpose of driving out the cylinder. A portion of the lead being driven in between the cylinder and the front part of the frame; in driving it out it cut the fragments of lead or ball in two, and wedged into the cylinder so hard I had to use a rod—a ramrod—to drive out the lead from the cylinder.

Int. 13. Will you produce a specimen of such fragments of lead or ball as were wedged in as you say.

Ans. (Witness produces a piece of lead, identified by the Examiner's initials on a card attached, saying,)

That is a piece that was driven between the cylinder and the front part of the frame. This is a portion, the other part was cut off in the cylinder.

Int. 14. Was it possible to revolve the cylinder by hand, after any of the discharges?

Ans. It was not.

Int. 15. Where is the original brown paper record of these experiments, and will you procure it, and produce it with your deposition?

Ans. It is at Worcester. I will produce it as desired.

Int. 16. Do you recognize the arm produced by Mr. Wheelock and having a card attached, marked, "White Pistol, No. 1, with the examiner's signature"?

Ans. I do.

Int. How does that differ from the arm that was used yesterday in the experiments referred to?

Ans. I see no difference in the construction. The one used was a true copy of this, a fac-simile made from this.

Int. 18. How came the arm marked "White Pistol, No. 1, etc.," to be broken as it is?

Ans. It was loaded with four cartridges, the same as No. 7 cartridge here produced, and one with a leather shoe, or packing, like No. 3. When the pistol was fired, they all exploded and blew it to pieces.


Int. 19. When and where was that, and who was present?

Ans. On the 6th April, at Allen & Wheelock's shop, in Worcester. Mr. Miles and Mr. Kirby were present; they are men in the employ of Allen & Wheelock. I was also present.

Int. 20. What other discharges were made at that time with that arm before it blew up? State how the experiments differed, if at all; from those which were tried yesterday, and how the results differed, if at all.

Ans. I think there was no difference; the experiments were conducted in the same manner, and results the same or nearly the same.

Int. 21. State particularly what different result occurred.

Ans. In No. 4, Exhibit Q, in the paper marked  etc.: the wood cartridge—in this experiment we fired several before they exploded, before they blew up. Somewhere from five to eight were fired successively without communicating the fire from one to the other, and at the next discharge they went off together.

Int. 22. Who loaded and fired the arm in the experiments on the 6th April?

Ans. Mr. Charles Kirby, a man in Allen & Wheelock's employ.

Int. 23. Were you present through the whole of them, and what part, if any, did you take in making them?

Ans. I was present at the whole of them. I took no part. I was there for the purpose of witnessing the experiments. I did not load the pistol or fire it.

Int. 24. Did you see it loaded, and ascertain the result for yourself each time of discharge?

Ans. I did.

E. A. PRESCOTT.

Sworn to this 15th April, 1863, before me.

N. AUSTIN PARKS, *Examiner.*

DEPOSITION OF JOAB HAPGOOD.

Joab Hapgood, a witness produced by respondents, being duly sworn, doth depose and say, in answer to interrogatories proposed to him by Causten Browne, Esq., Counsel for Respondents, as follows, viz:

Int. 1. What is your name, age, residence and occupation?

Ans. My name is Joab Hapgood; age, 58; residence, Shrewsbury, Mass.; my business is in Boston; occupation that of gun manufacturer and dealer in fire-arms.

Int. 2. How long have you been in such business?

Ans. I've been in the manufacturing business something over 30 years, and a dealer for fifteen years.

Int. 3. What classes of fire-arms has your business as manufacturer or dealer embraced?

Ans. My manufacturing business has been in shot guns and rifles and single pistols to some extent. As a dealer, in small arms generally.

Int. 4. Are you acquainted with the meaning of the term "breech loader," as used among manufacturers and dealers, during the last fifteen years, to describe a certain class of fire-arms. If so, please state what it means.

Ans. I am so acquainted. A breech-loader means any arm that receives the cartridge, load, or charge, at the breech.

Int. 5. Please name several of the best known breech-loading arms, that we may understand what variety the term includes.

Ans. The first of which I had any knowledge was Hall's, then Colt's, Allen's, Sharp's, Schenkl and Burnside, and various others.

Int. 6. Please describe generally the method of loading in the Hall, Colt, and Sharp arms, which you say were all breech-loaders.

Ans. Hall's breech-loader was loaded by raising a short portion of the breech about four inches, sufficient to uncover it from the barrel for the purpose of receiving the cartridge. This short portion of the barrel that receives the charge is hung upon an arbor at the rear end and is swung upwards so as to have the charge inserted at its front end.

Colt's pistol is a repeater, having the charges inserted in the front end of chambers in a revolving cylinder, and successively fired through a single stationary barrel.

Sharp's rifle has the charge inserted at the rear end of the barrel itself, which is opened by a slide for that purpose.

Int. 7. How long have these Hall, Colt, and Sharp arms been known in the market as breech-loaders?

Ans. From fifteen to thirty years.

Int. 8. What difference is there, if any, between the terms breech-loader, loading at the breech, loading by the breech, etc., etc., as used to describe fire-arms.

[*Objected to.*]

Ans. It is understood by the trade generally to mean the same thing, a gun that receives the charge at the breech.

Plaintiff not waiving but insisting upon his objections to the foregoing interrogatories propounds the following cross-interrogatories de bene esse, by E. F. Hodges, Esq., his counsel.

Cross-Int. 1. Do you call the arm you have described as Hall's a breech-loader?

Ans. Yes, sir.

Cross-Int. 2. Do you call the arm you have described as Colt's pistol a breech-loader or a breech-loading arm?

Ans. Yes sir, I do.

JOAB HAPGOOD.

Subscribed and sworn to this 16th day of April, 1863, before me.

N. AUSTIN PARKS, *Examiner.*

DEPOSITION OF JOHN P. LOVELL.

John P. Lovell, a witness produced by respondents, being duly sworn, doth depose and say, in answer to interrogatories proposed to him by Causten Browne, Esq., Counsel for respondents, as follows, viz :

Int. 1. What is your name, age, residence, and occupation?

Ans. John P. Lovell; age, 43; residence, East Weymouth; I do business in Boston; I am a manufacturer and dealer in fire-arms.

Int. 2. How long have you been in that business, and what classes of arms has it embraced?

Ans. I have been in the business twenty-three years, besides my apprenticeship. Generally speaking, my business embraces all kinds of small arms.

Int. 3. Are you acquainted with the meaning of the term "breech-loader," as used among manufacturers and dealers during the last twenty years? and if so, state what it means, and name some of the best known and oldest arms which are called breech-loaders.

Ans. I think I am acquainted with its meaning. I should say it meant any arm that received the charge, or cartridge, at the rear end or breech. I think Hall's is the oldest, — Colt's, and Sharp's.

Int. 4. What difference is there, if any, between the meaning of the terms breech-loader, loading at the breech, or loading by the breech, as

used among pistol-makers and dealers during the last twenty years, to describe fire-arms ?

[*Objected to.*]

Ans. I don't know of any.

Int. 5. Are all of such terms in common use in the trade, to describe fire-arms ?

[*Objected to.*]

Ans. Yes, sir.

Witness adds — That the three arms, Hall's, Colt's, and Sharp's, he has named, receive their charges differently : that he should distinguish Colt's by calling it a repeating breech-loader.

And in answer to cross-interrogatories — De bene esse — propounded by E. F. Hodges, Esq., Counsel for Complainants, deponent saith as follows, viz :

Int. 1. Do Hall's and Sharp's receive the charges in the same way, or if not, how differently ?

Ans. They do not. Sharp's receives the cartridge by moving a slide at the rear end of the barrel. Hall's receives the charge as described by Mr. Hapgood. I agree in this opinion of both.

JOHN P. LOVELL.

Subscribed and sworn to, April 16th, 1863, before me,

N. AUSTIN PARKS, *Examiner.*

DEPOSITION OF CHARLES KIRBY.

Charles Kirby, a witness produced by respondents, being duly sworn, doth depose and say, in answer to interrogatories proposed to him by Causten Browne, Counsel for respondents, as follows, viz :

Int. 1. What is your name, age, residence, and occupation ?

Ans. My name is Charles Kirby ; age, 38 ; residence, Worcester ; occupation, gunsmith.

Int. 2. Did you try any experiments yesterday, with a model pistol, and where?

Ans. Yes, sir; at Allen & Wheelock's counting-room, Worcester.

Int. 3. How did the pistol you used differ from that now before you labeled "White Pistol No. 1," etc.

Ans. Well, I should call them the same thing, except this is broken. I notice another thing also, in the pistol I used yesterday, that the striking of the balls in the recess of the front plate, had upset or strained out a little, the metal of the recess, laterally.

Int. 4. Please describe minutely what you did yesterday, in such experiments.

Ans. I loaded the pistol with loose amunition, three chambers, with a leather shoe in the rear. I should think the shoe an eighth of an inch thick, with a hole in the centre, reamed from the inside—that is, was widest on the inside next the charge. The hole in the leather shoe would admit about the shank of a common sized pin, on the side next the cone—some I made smaller. The hole next the charge in the chamber was about as large again.

April 16th, adjourned to to-morrow.

Examination resumed, 17 April, 1863.

Int. 5. Please continue the account of your experiments on Wednesday, the 15th, stating how you discharged the pistol loaded as you say—how many times you so loaded and discharged it, and with what result.

Ans. I took the pistol, screwed it into a common vise, put the centre hole that was loaded in line with the barrel, raised the hammer, put on a percussion cap on the cone, attached a piece of string to the trigger, went round a corner of a partition, and fired it. I loaded and fired the three chambers, loaded in this manner, six times—in all eighteen charges—all three charges exploded together each time.

Int. 6. Please describe the condition of the cylinder and adjacent parts after each discharge, and produce the balls or slugs taken from the arm, and state where they were found.

Ans. I took the pistol and tried to revolve the cylinder after each

discharge, in the common way. I could not move it. It was so tight from the balls getting between the cylinder and the frame or front plate, it could n't be moved. I took a hammer handle, struck the cylinder several times, and drove it out. The balls and slugs in the box, marked "Kirby, No. 1, etc.," I produce as those taken out of the cylinder, and the recess in the front plate. There are some pieces of leather packing in the box, which were taken from the left hand hole in the cylinder.

Int. 7. Did you try any further experiments with the same pistol after the adjournment yesterday?

Ans. Yes, sir.

Int. 8. State how the charges used differed from those used the day before, and produce samples of them.

Ans. I fired three rounds with loose ammunition and the shoes produced marked "Kirby, A," etc.

I fired three rounds as above, with shoes marked "Kirby, B," etc.

I fired three rounds as above, with shoes marked "Kirby, C," etc. Three charges to each round. In all twenty-seven charges.

Int. 9. How many charges were exploded without communicating fire, and exploding the adjacent charges?

Ans. One.

Int. 10. Which of the three classes of leather shoes A, B, or C, was used with that charge?

Ans. Shoe B.

Int. 11. In these experiments, yesterday and the day before, which way was the leather shoe inserted in the chamber? With the wide part of the hole next the charge, or the narrow part?

Ans. In the experiments yesterday, the large part was next the powder, and the same the day before.

Int. 12. Did you try any experiments with loose ammunition and leather shoe prior to those days, and if so, on what day was that?

Ans. On the 9th March last.

Int. 13. Which way was the leather shoe inserted on that occasion? With the wide part or narrow part, of the hole next the charge in the chamber?

Ans. The narrow part next the powder.

Int. 14. How much taper was there to the holes in those shoes?

Ans. The smallest part would admit the shank of a common sized pin, and the other side would admit two.

Int. 15. Was this experiment conducted in the same way as those yesterday and the day before?

Ans. They were.

Int. 16. In the experiment on the 9th March, how many rounds of the kind you describe were fired?

Ans. Five rounds, three charges each.

Int. 17. State the result.

Ans. They all exploded together, except the third.

Int. 18. In each of these three experiments, the 9th March, and 15th and 16th April, state how tightly or loosely the shoe was fitted to the bore of the rear end of the chamber?

Ans. They was fitted as tight as what I should put them in the hole to carry the pistol when loaded; they were so tight they had to be pressed in with a small piece of iron.

Int. 19. Can you exhibit the identical pistol with which the firing of the 9th March was done?

Ans. The pistol now before me, marked, "White Pistol No. 1, etc.," is the pistol.

Int. 20. How came that pistol in fragments, if you know, and when was it done?

Ans. It broke while firing on the 6th day of April.

Int. 21. What charges were in it when it burst?

Ans. There were four charges, three of them copper shells with a hole in the centre, and one of them was a skeleton shell with a leather shoe in the end, a hole in the shoe; the holes were all the same size, about the size of a pin hole.

Int. 22. Were any leather shoes with loose ammunition tried on the 6th April?

Ans. No, sir.

CHARLES KIRBY.

Subscribed and sworn to this 17th day of April, 1863, before me.

N. AUSTIN PARKS, *Examiner.*

DEPOSITION OF WILLIAM C. HIBBARD.

William C. Hibbard, a witness produced by respondents, having duly affirmed, doth depose and say, in answer to interrogatories proposed to him by Causten Browne, Esq., Counsel for respondents, as follows, to wit:

Int. 1. What is your name, age, residence and occupation?

Ans. My name is William C. Hibbard; age, 48; residence, West Roxbury; occupation, mechanical engineer.

Int. 2. Please state what experience you have had in the examination and comparison of mechanisms upon questions of substantial identity and difference, whether for purposes of judicial investigation or otherwise?

Ans. I have for the whole of my active life been engaged in designing and constructing machinery, and examining and comparing inventions in connection with letters patent, and have been many times examined, as an expert in mechanics, in patent cases in several of the Districts of the United States.

Int. 3. Have you had occasion, and, if so, to what extent, to study the principles of construction and operation of fire-arms in general?

Ans. I have had occasion to examine the subject to a considerable extent by the examination of the matters involved in a patent suit tried several years since, in which the matter of revolving arms was investigated. I refer to the case of Colt *vs.* The Massachusetts Arms Company, in which I was an expert. I have also had occasion to examine the subject in connection with several letters patent, for which I have prepared specifications and drawings. I have no other special knowledge except such as is obtained by my current reading of mechanical publications, excepting the special investigation which I have made in connection with this case, to which I have devoted several days.

Int. 4. Have you examined a certified copy of the patent of Mr. Rollin White, upon which this suit is founded, and do you understand

the construction of the instrument there shown, and its purposes and intended operation?

Ans. I have examined a certified copy of that patent, dated April 3d, 1855, and believe that I fully understand the structure and operation of the mechanism therein described.

Int. 5. Please describe the construction, purpose, and intended operation of the mechanism exhibited in that patent, so far as relates to the subject matter of the first claim in the patent.

Ans. The mechanism to which the first claim relates, as I understand it, is that by means of which the pistol is charged and prepared for firing. The particular purpose to be accomplished by this mechanism is to enable the charge to be inserted at the rear of the chambers instead of being inserted through the muzzle of the barrel. The peculiarities in the construction of the mechanism by which this result is accomplished, are: first, that the chambers in which the charges are placed are extended through or made open to the rear, and second, a breech-plate or breech-piece, which fits closely to the rear end of the chamber, when brought to the position in which they are to be fired, and forms the breech of the barrel; thirdly, a passage is made through this breech-plate to the exterior of the arm, forming a vent, to the exterior of which a cone is fixed for receiving a common percussion cap, which is exploded by the hammer of the lock in the usual manner, from which fire is communicated, through the vent in the breech-piece, to the charge in the chamber, which lies directly in front of it. There is an arrangement of mechanism shown for rotating the chambers to bring them in succession to the place to be fired, and also mechanism for placing the cartridges in the chambers from a magazine, with some other arrangements of mechanism which do not seem within the scope of the interrogatory.

The intended operation of this mechanism is, as I understand it, this: the chambers of the arm being formed in a rotating cylinder, are by rotation brought in a line with the stationary barrel and the vent, and that chamber only is closed by the breech-plate at the time of firing, two of the other chambers being left uncovered at the rear, one of them opposite the magazine, and another one of them, upon the opposite side of the pistol, being open, or entirely exposed, so that a charge can be

inserted into it by hand. The enclosure of the charge within the chamber, and the preventing of the escape of gas and flame from the rear of the chamber, is intended to be accomplished by the close fitting of the breech-piece, marked *p*, in the drawing, to the rear end of the chamber.

Int. 6. Please state the essential functions, upon the right performance of which the safe and efficient action of an arm such as you describe depends. I mean an arm having the charges inserted at the rear of chambers in a revolving cylinder, and to be discharged through a stationary barrel in front.

Ans. So far as regards the loading of the same at the breech and preparing it for firing, it depends, in my judgment, upon two essential conditions—first, that the part shall be made strong enough to withstand the pressure of the discharge; and second, closing the breech so as to prevent the escape of the flame from the exploded charge, which otherwise would probably ignite the other charges in the cylinder. In my opinion, unless the arm embodies both these properties fully, it will be inoperative and worthless.

Int. 7. In the regular use of such an arm how many of the chambers are designed to be charged before firing commences?

Ans. There is nothing in the specification, that I recollect, that gives any specific instruction on that point. I should infer from what was well known at the date of the patent that, when loaded by hand, it was intended that all the chambers should be loaded at once. When loaded from the magazine, there might not be but two loaded at once, although there is nothing which definitely determines which way the cylinder was intended to rotate, the drawing being indistinct and the specification silent, I believe, on that point.

Int. 8. What is your judgment as to the sufficiency of the specification and drawings of this patent, to enable a workman skilled and well informed in the manufacture of fire-arms, at the date of the patent, to construct and use the arm so as practically to operate in the manner and to accomplish the purposes set forth, or to embody practically the invention as you find it exhibited in the description and drawings? and if you consider it insufficient, say why.

[*Objected to.*]

Ans. So far as regards the structure of the mechanism by means of which the charge may be inserted at the rear of the chambers, the drawings appear to indicate clearly what the patentee designed to construct, and that portion of the structure could be readily made by a skilful gunsmith, if the stock or lock-plate were so modified as to enable the cylinder to be got into place,—the drawing strictly showing no provision for that purpose,—otherwise I see no difficulty in simply executing the parts as described and represented in the drawing, in relation to the structure of the chambers and method of closing the breech. But that structure, in my opinion, would not practically accomplish the object for which it is intended, for the reason that the mode represented of closing the breech, could not be used with safety, because it would not prevent the escape of flame from the charge and priming, which, in my opinion, would ignite the other charges in the cylinder, which would render the arm dangerous and worthless. This difficulty is inherent in the mode of construction and operation of the arm, and could not be remedied by the constructive skill of the workman.

There is one other property which is also inherent in the mode of construction and operation of the arm, viewed with reference to its especial purpose as a repeating fire-arm, or the ability to fire a certain number of shots in rapid succession, and that is, that all the chambers are fired by means of a single vent and nipple, which requires the priming to be renewed at each successive discharge, a property which would render nugatory the advantages intended to be derived from the employment of a many chambered cylinder. This peculiarity of itself, even if the arm worked practically well in all other respects, would, in my opinion, render it worthless in the present state of the art.

Int. 9. To avoid misconstruction of my last inquiry, I will repeat it in this form — What is your judgment of the sufficiency of the specification and drawings to enable the workman in question to construct a practically operative arm upon the principle of the arm described in the specification, and represented in the drawings, referring always to the construction of the rotating cylinder, its operation and purposes, and

mechanical relation to the rest of the arm, as regards such operation and purposes?

Ans. As I have before stated, I do not consider that an arm constructed upon the principle represented in the drawing and specification would be practically useful, because, in my judgment, the structure described will not accomplish the end proposed.

Int. 10. You say that the difficulty arising from the inefficiency of the means provided for closing the breech is inherent in the construction and mode of operation of the arm, and could not be remedied by the constructive skill of the workman. Please explain why he must go beyond constructive skill in order to remedy it.

Ans. It is owing to this fact, viz: that to enable the chamber to rotate to bring the charges in succession to the place of firing, the cylinder, of necessity, must be detached from the part that forms the breech of the chamber, and must also be so loosely fitted to it as to permit freedom of rotation, — such a joint must necessarily permit the fire to escape when the charge is exploded, and the direction of the joint is such as to guide the fire directly upon the remaining charges in the cylinder, and with almost positive certainty to explode them. To enable the arm to act efficiently, there is necessary something in addition to the rear of the chamber and the breech-piece to close the joint, — this is supplied in all arms loading at the breech, of which I have any knowledge, by the metallic case of the cartridge, which, for the time, effects an impervious junction between the two at the time of the discharge; and without employing a cartridge having those properties, I do not see how loading at the rear efficiently can be accomplished. The mechanism shown in the patent can be made strong enough to sustain the pressure of discharge, but it cannot be made sufficiently tight to retain the gases and prevent the escape of the flame; and the addition of the closed metallic case of the cartridge constitutes, in my judgment, a substantial difference in the combination by which the breech is closed. The cartridge-case being, in my opinion, a substantial element in that combination, which it would require invention to supply.

Int. 11. Why is not the use of such metallic cartridge a matter of mere selection of the kind of charge to be used in the pistol shown in

the patent, and to be provided for by the mere judgment of the constructor in any particular case?

Ans. Because that cartridge, with a closed metallic case, cannot be used in a pistol constructed as represented in the patent. The cartridge proposed to be used did not have its priming attached to it, the fire of the priming having to pass the joint between the breech and chamber to reach the powder. In the closed cartridge with the metallic case, the priming is placed within the cartridge, and ignited within it, requiring no opening to the exterior to communicate fire to the charge. The kind of cartridge intended to have been used in the plaintiff's pistol, as described in the patent, I should infer to be the common paper cartridge, from the structure of the mechanism of the magazine and manner of priming.

Int. 12. Besides the common paper cartridge, what kinds of cartridges, or cartridges possessing what property, are alone capable of use in an arm substantially like that shewn in the patent, and what is there, if anything, in the substantial construction and mode of operation of that arm to limit or define the character of the cartridges to which it is applicable?

Ans. The cartridges to be used in the arm of plaintiff, must, of necessity, have an opening in the rear to admit the fire from the priming, and it must also be cylindrical on the exterior, or substantially so, so that it may be placed entirely within the chambers in the cylinder.

Int. 13. In your judgment, can a cartridge be made which will admit the flame from the exterior priming, and not suffer the flame from the explosion of the charge in the chamber, which is in the line of discharge, to pass out in the opposite direction, and so endanger the ignition of the charges in the other chambers?

[*Objected to.*]

Ans. In my opinion, there could not. I think that it might, perhaps, be possible to make a cartridge with a hole in the centre with a packing of some kind around the circumference at the rear, that might stop the escape of flame sometimes; but I do not believe it could be practically relied on to accomplish this purpose so as to be, to any practical degree, safe or useful.

Int. 14. Suppose a cylinder pistol, the chambers extending through to the rear, and being reamed out a little at the rear end so as to make a shoulder in the interior of the chamber, at a sufficient distance from the rear, and suppose such chambers to be loaded with ball and loose powder, and then closed, or packed, by inserting behind the charge in each chamber a piece of leather cut out so as just to fill the bore of the chamber, with a small hole punched in the centre of it, made larger in front than in the rear, with a view to having the explosive gas so act upon it as to expand it, and thereby stop the escape of flame at the rear of the chamber when fired, and that the chambers of such a pistol, so loaded, are to be discharged by the explosion of a percussion cap placed outside of, and independent of, the charge as shewn in the patent. In your judgment, could a pistol, so loaded, be so discharged with efficiency or safety?

Ans. In my opinion it could not, and further, that method of charging a pistol would, in my opinion, be so complicated that no one would consent to use it, even if it were safe.

Int. 15. Does such an arrangement practically embody the conception of using a cylinder chambered through to the rear, so as to load at the rear with charges to be successively discharged through a stationary barrel in front?

Ans. In my opinion it does not, for the reasons that I have already stated.

Int. 16. What would be the effect in an arm constructed substantially like that shown in the patent, of the explosion (by communication of lateral fire) of the charges in the chambers not in line with the barrel?

Ans. The result of such an accident was intended to be provided for in the patent by the employment of a part called the guard, marked B, which is placed immediately in front of the chambers, which was designed to catch the balls and permit the gas of explosion to escape,—but the real effect would, in my opinion, be to disable or destroy the arm and ignite all the charges by conducting the fire directly to each chamber; and as regards the charge in the chamber in the position marked I, fig. 4, to drive the charge out of the back end toward the

person using it. Even if the lock-frame was not broken by the discharge, the lodging of the disfigured bullets and cartridge-cases between the guard, B, and the cylinder would probably prevent it from being afterwards rotated, and thus disable the arm.

Int. 17. Are you familiar with the construction and operation of the Colt revolver, so called, and of the pepper-box pistol loading at the muzzle and known as the Allen pistol?

Ans. I have seen pistols of those descriptions and examined them repeatedly.

Int. 18. Have you examined a certified copy of the Hartog & Devos patent, granted in Belgium, 25th May, 1853, and now produced and shown to you; and do you understand the construction and operation of the arm therein described and represented?

Ans. I have examined such copy and believe that I understand the construction and operation of the mechanism therein described.

Int. 19. Have you examined an official copy of the specification and drawings of patent granted in England to John Henry Johnson, 24th June, 1854, for improvements in revolving fire-arms, and do you understand the construction and operation of the arm there described and represented?

Ans. I have; and believe that I fully understand the same.

Int. 20. Have you examined a certified copy of French letters patent for improvement in breech-loading arms granted to Lefauchaux, 2d May, 1845, and certificates of addition thereto dated 7th February, 1846, and 25th May, 1846, respectively, and do you understand the descriptions and drawings in each, and the mechanism and mode of operation described and represented in each, such certified copy being now produced and made exhibits in the case?

Ans. I have examined them and believe that I fully understand the structure and operation of the mechanism there described and represented.

Int. 21. Have you examined papers purporting to be translations of these three Lefauchaux descriptions, made by Mr. Charles Folsom, and now produced in the case, to be hereafter proved by him, identified by the signature of the Examiner on each; and also the printed document

purporting to be a translation of such Lefauchaux specification and additions, at pages 77 to 82, inclusive, of the record of the case of Rollin White and others, in Equity, against Herman Boker and others, in the Southern District of New York?

Ans. I have.

Int. 22. Have you examined the arms made by the defendants in this case, a specimen of which is now produced and labeled Allen & Wheelock, with the signature of the Examiner, and the arms made by E. A. Prescott, defendant in a like suit, now pending in this Court, a specimen of which is produced and labeled E. A. Prescott, with the signature of the Examiner, and do you understand their construction and operation respectively?

Ans. I have examined them, and believe that I fully understand their construction and operation.

Int. 23. Please state what are the substantial mechanical contrivances which you find described and represented in the Lefauchaux specification and certificates of addition just referred to, separately or taken together, their operation and purpose.

Ans. The specification of Lefauchaux with the additions referred to, all describe a mode of operation of loading fire-arms at the breech; and the mechanisms represented in the specification, and the several additions of improvement, are but different manners of applying the the same principle of loading to different fire-arms. This method may be stated to consist: first, in boring the chambers through to the rear for the purpose of receiving the charge at the rear, and the closing of the rear of the chambers by a separate breech, which is made strong enough to resist the pressure of the gases of discharge; the joint is secured or made tight by the closed metal case of the cartridge, within which both the charge of powder and priming are placed. In the first specification of May 2d, 1845, the method of loading is applied to a single barrel only; the barrel is mounted upon an axis which is attached to the breech, the centre of rotation being exterior to the barrel, but parallel with the bore. As the barrel is revolved round this axis, the rear of the chamber is carried away from the breech, which exposes the rear end and permits the charge to be inserted into it. When it is

rotated back to the position in which it is to be fired, the parts are in proper condition to operate without any other preparation. In the specifications of additional improvements of February 7th, 1846, and May 25th, 1846, are represented the same method of loading as applied to revolvers: that is, a series of chambers are arranged around an axis, each of which is loaded in the same manner as the single barrel mentioned in the first patent, with some differences of the form of the parts employed; that is, having the chambers open to the rear with a detached breech, the joint between which and the rear of the chamber is closed by the metal case of the cartridge; precisely the same form of cartridge being used in all. In the patent of May 2d, 1845, the breech-piece that closes the rear of the chambers does not rotate with the chambers, but in the specifications of additional improvements of February and May, 1846, the breech-piece revolves with the chambers; but the coöperation of the parts in loading and closing the breech, and firing the charge is substantially the same in all. In these arms the chambers in which the charges are placed are the rear portions of the short barrels, (the arms represented being pocket pistols,) but the length or character of the barrel, beyond the part which is occupied by the charge has nothing whatever to do with the method of loading, and neither influences nor is influenced by that method. The method would be precisely the same whether the chamber was extended but an eighth of an inch beyond the charge or extended several feet and form a barrel.

Int. 24. Suppose the arm described and represented in the White patent to be provided with efficient means of closing the breech of the cylinder after the insertion of the charges, by the use of closed metallic cartridges, or otherwise, will it then be substantially similar to, or substantially different from, the arm shown in the Lefauchaux specification and certificates of addition as respects what you have defined to be the substantial contrivances shewn in that specification and in the additions? and state the reasons of your opinions.

Ans. If the modifications mentioned in the interrogatory were made in the White pistol, and the mechanism for discharging were also modified, so that the priming could be ignited within the closed case of the cartridge, then its mode of operation would be substantially like

Lefauchaux: and the reason for this opinion is that, identically the same functional parts, acting in combination, in the same way, would be found in each, producing identically the same result.

Adjourned to 10 o'clock to-morrow, 9th inst.

April 9th, 1863.

Int. 25. You define the substantial mechanical contrivances found in the Lefauchaux specification and certificates of addition as modifications of one method, or mode of operation, of loading fire-arms at the breech, which you say is the same whether the chamber be longer or shorter. What difference does it make, if any, in principle, if the charges are placed in short chambers which are successively revolved into position to fire the charges through a stationary barrel in front?

Ans. None, whatever. The employment of a stationary barrel in front does not, in any way, affect the method of loading and closing the breech.

Int. 26. What difference is there between the mechanical character of a pepper-box revolver, or revolving series of barrels, and that of a cylinder revolver having a chambered cylinder to receive the charges and a stationary discharge-barrel, considered as subjects for the application of the method, or mode of operation, shewn in the Lefauchaux specification and additions, as you have explained them?

[*Objected to.*]

Ans. Considered as constructions of arms to which the method of loading shown in Lefauchaux may be applied, I consider that the mode may be applied to one just as well as to the other, and is no more applicable to one than to the other; that the mode might be applied to fire-arms of all descriptions, whether fired from the hand or from the shoulder, and that, in all, the combination, mode of operation, and result will be identically the same.

Int. 27. Lefauchaux having applied his mode of operation to a series of revolving barrels, what new or peculiar means, if any, are required to be employed to apply the same construction to a revolving cylinder with single stationary barrel, so as to present the same mode of operation, and obtain the same results?

[*Objected to.*]

Ans. None whatever. A stationary barrel might be placed in front of the revolving barrels in Lefauchaux, and discharge its ball through it, without changing the arm in any other respect in the least degree, either in structure or operation.

Int. 28. What difference is there, if any, in the purposes which are accomplished by the application of the Lefauchaux construction and mode of operation to one of the arms supposed, and to the other?

[*Objected to.*]

Ans. None whatever.

Int. 29. Please refer to the last paragraph but one in the Lefauchaux certificate of addition of 7th February, 1846, the paragraph beginning '*on conçoit,*' and ending '*partir le coup,*' and the corresponding part of the Folsom translation; and state what, if any, substantial addition to, or modification, or application of the contrivances previously described by Lefauchaux, you there find suggested.

Ans. I find it suggested that this mode of loading is intended to be applied to all sorts of pistols with many barrels as well as other fire-arms which load at the breech. Especial reference is made to revolvers, to which he also refers in a previous sentence.

Int. 30. What does the term "arms loading at the breech," as there used, include? And please state your reasons for such interpretation as you give it.

[*Objected to.*]

(Question suspended.)

Int. 31. Are you acquainted with the technical use and signification of the terms generally employed in the description of fire-arms in English and in French, including those which are employed in the descriptions now in question? And state what experience you have had which has made you so acquainted, if such is the fact.

Ans. I think I am acquainted with the use of all such terms that are in common use, in both languages, in relation to the subject under examination. And in this connection I have devoted considerable time to ascertaining the extent of the signification of the phrase "loading at the breech;" and my source of knowledge generally is the reading of des-

criptions in French and English of fire-arms, and such knowledge as I have obtained in the personal examination of arms, and in conversation with persons acquainted with their construction and use, generally, and not particularly in connection with this case.

Int. 32. Through how long a course of time has such general acquisition of knowledge upon this subject by examination and conversation, extended?

Ans. Through several years.

Int. 33. Please now, answer fully the question put a little while ago, and numbered "30."

[*Objected to.*]

Ans. "Loading at the breech," I understand to mean, the placing of the charge directly in the chamber in which it is to be exploded, without inserting it at the muzzle, and passing it through the barrel to reach the chamber—which requires that the chamber should, in some way, be opened to receive the charge, and closed again when the charge is fired, so as to cause the projectile to pass out of the barrel and receive its direction. The modes of construction by which the chamber is opened to receive the charge, are various,—many different forms of which are described in the books,—most of them appear to have one of these two properties, either that the opening is made entirely at the rear of the chamber by removing the breech, or separating the barrel in front of the chamber, and placing the charge in the chamber from the forward end—either of which constructions permit the charge to be placed directly in the chamber freely and readily by the hand, and at the same time the ball be made to fit the barrel tightly and compressed in its passage out, which are the great purposes to be accomplished by loading arms at the breech.

Int. 34. Have you such knowledge of the state of the art of fire-arms manufacture existing in France at the date of the Lefauchaux patent, and certificates of additions, as to be able to say what arms, or descriptions of arms (repeating), were then public in France, embraced by the description "breech loaders," other than those particularly shewn in the Lefauchaux specification, and additions aforesaid? and if so, will

you make such reference to such arms or descriptions as may enable us to identify them for exhibition in this case?

Ans. My knowledge of the state of the art in France at the date of Lefauchaux specification is confined to descriptions in books printed before that time, in which such arms are described. The earliest revolving arm that I find, was that for which a French patent was granted to Cornelius Coolidge, in 1819, which is described in the *Brevets d'Invention*, Vol. 11, p. 42. The next instance is several kinds of breech-loading fire-arms, including revolvers, and other forms of breech-loading fire-arms, for which a patent was granted in France to Julien Leroy, September 8th, 1825, and published in 1831, in the *Brevets d'Invention*, Vol. 21, page 15. Another arm, was one constructed by Phillippe Mathieu, which is described in the Bulletin of the Society for the Encouragement of National Industry, published in 1842, page 435. There is also to be found in a French patent, granted to Lefauchaux, October 29, 1834, which is to be found in the *Brevets d'Invention*, Vol. 48, p. 227, published in 1843, a statement which seems to define what Lefauchaux meant by the phrase "loading by the breech," as applied to fire-arms, which is in accordance with the definition which I have heretofore given in my deposition. The passage is to be found on 227 page, commencing with the words "*l'avantage que l'on retire,*" and ending with the words, "*direction naturel du fusil.*"

Int. 35. In giving your opinion as to the substantial identity of the contrivances shewn in the Lefauchaux specification of 1845, and additions before referred to, with the contrivance shewn in the White patent, specification and drawings, how far, if at all, do you make your opinion dependent upon the interpretation and force of the particular paragraph last but one in the Lefauchaux certificate of addition of February 7th, 1846, to which you have been referred?

Ans. It is not dependent at all upon the paragraph, the opinion being based upon structure of the respective arms.

Int. 36. Please examine the Allen & Wheelock and Prescott pistols, exhibits in this case, and comparing each of them with the arms described and represented in the Lefauchaux specification of 1845, and certificates of addition before referred to, and also with the arms

described and represented in the specification and drawings of the Hartog & Devos patent, and that described and represented in the specification and drawings of the J. H. Johnson patent, and that described and represented in the specification and drawings of the White patent, and state what contrivance, if any, either of the defendants' pistols embraces in construction and mode of operation, which you find in the arm described and represented in the specification and drawings of the White patent, (either as described and represented, or as so modified as to be made operative and efficient,) and whether such contrivance, if any, so found to be common to the White arm and to the defendants' arm is substantially similar to, or substantially different from, this contrivance or contrivances shewn in specification and drawing of the Lefauchaux patent and certificates of addition and of the Hartog & Devos patent, and of the J. H. Johnson patent, respectively.

[*Objected to.*]

Ans. Comparing the Allen & Wheelock and the Prescott pistols with the Lefauchaux pistol, as to the method of loading the chambers and closing the breech, I find them identical—having this difference in form: that in Lefauchaux additions of 1846 the breech-plate which covers the rear of the chambers revolves with the chambers instead of remaining stationary, as they do in the Allen & Wheelock and Prescott pistols; but in the mechanism represented in the specification of 1845, with a single barrel, the breech-piece remains stationary, and acts in connection with the rear of the chamber precisely in the same manner as in the Allen & Wheelock and Prescott pistols. Comparing them with the pistol of Johnson, they are, in this respect, identical. Compared with Hartog & Devos' they are substantially identical, assuming that the closing of the rear of the chamber in Hartog & Devos' pistol can be effected by the face of the hammer, about which I am not positive. But the structure of the revolving chambers, and the loading of them at the rear are precisely alike, in principle, to those of Allen & Wheelock and Prescott. In all these instances, it will be observed, the efficiency of closing the breech is made dependent upon the employment of the closed metallic case of the cartridge. Comparing White's

specification with the other descriptions before referred to, it has the revolving chamber open at the rear with a stationary breech, but not so constructed, or adapted, as to be used with a cartridge having a closed metallic case with the priming placed and ignited within it. All those parts which are to be found in common in the White pistol and the Allen & Wheelock and Prescott pistols are also to be found in substance in all of the other pistols before mentioned.

And in reply to cross-interrogatories, proposed to him by C. M. Keller, Esq., counsel for complainants, deponent saith as follows, to wit:

Cross-Int. 1. Among the several breech-loading revolvers referred to in your answer to the 34th direct interrogatory, you state that you find published in different French works, do you find any of them having a cylinder of chambers bored entirely through, so that the charges can be inserted at the rear end, combined and operating in connection with a single fixed barrel, so that the chambers can be in succession brought in line with, and the ball fired through, such fixed barrel?

Ans. I do not.

And in reply to Direct Interrogatories, resumed by Causten Browne, Esq., Counsel for respondents, deponent saith as follows, to wit:

D. R. Int. 1. Lefauchaux having applied his mode of construction and operation to a series of revolving barrels, what new or peculiar means would be required in order to apply the same mode of construction and operation to either of the several breech-loading revolvers just referred to, in order to enable them to have the charges inserted at the rear of the chambers, and discharged successively through the stationary barrel, substantially as is done in the defendants' arm?

[*Objected to.*]

Ans. As regards the arms of Coolidge and Leroy, the rear of the chambers, and parts coöperating with it, would require to be made like Lefauchaux' revolving chambers and the parts coöperating therewith.

And in Lefauchaux there would be required the addition of a stationary barrel, as I have already stated in my examination.

WM. C. HIBBARD.

Subscribed and sworn to this 9th day of April, 1863, before me,

N. AUSTIN PARKS, *Examiner.*

DEPOSITION OF HENRY B. RENWICK.

Henry B. Renwick, a witness produced by respondents, being duly sworn, doth depose and say, in answer to interrogatories proposed to him by Causten Browne, Esq., Counsel for respondents, as follows, to wit:

Int. 1. What is your name, age, residence, and occupation?

Ans. My name is Henry B. Renwick; age, 45; residence, New York; occupation, civil and mechanical engineer, and steamboat inspector.

Int. 2. State what experience you have had in the examination and comparison of mechanism upon questions of substantial identity and difference, whether for purposes of judicial investigation, or otherwise?

Ans. I was chief examiner in the patent office for about four years and a half, where that was my sole business; and I have been frequently called upon during the last ten years, to examine questions of substantial identity and difference, both in mechanisms and processes, not only as expert in patent cases, but also in other cases submitted to me.

Int. 3. Please examine the specification and drawings of the White patent, and state, in general terms, the construction and operation of the arm there shewn.

Ans. The arm is a pistol with a revolving cylinder, a single barrel, a breech-piece, a recoil-shield, a single nipple, a ball-catcher in front of the cylinder, and a charging apparatus, and it is stated in the patent that the charging apparatus may be used or dispensed with at pleasure.

The description and drawings, as a whole, show that the barrel is of the ordinary construction, and located in the ordinary way with respect to the cylinder. That the cylinder is bored through from end to end, with a bore tapering gradually to the front, so that it may be loaded by cartridges shoved in from the rear, and that the balls may, by their friction against the inside of the chambers, and the fact that they must be compressed in order to do so, be prevented from sliding forward. This cylinder has no nipples. A breech-piece covers the rear end of at least one chamber, and partially covers two other chambers, not quite up to their central line; it is represented as fitting close up to the chambers, and against the rear of the cylinder, and must, of necessity, do so in order to direct the fire from the single nipple into the centre of that chamber which is about to be discharged, and to prevent, as far as possible, the lateral extension of the fire into other chambers. This breech-piece also serves to keep those cartridges, which may rest against it and are not discharged, from kicking backwards out of the chamber at each shot that is fired. This breech projects a little less than one-eighth of an inch forward from the recoil shield. A single nipple is located on the frame of the arm, and has an orifice leading down from it through the frame, and thence horizontally through the breech. The recoil-shield lies behind the breech, and extends over all the chambers but two, when the self-charging apparatus is used. Whether it is to extend over all but one, when it is not used, or over all but two, the patent leaves in doubt. A ball-catcher, to catch the balls thrown by accidental discharges of chambers not in line with the barrel, lies in front of the cylinder, and has a recess in it to receive the balls, and is cut away at the edges so as to leave about one-sixteenth of an inch between them and the front end of the cylinder. When the charging apparatus is used, an attachment to the cock descends between the magazine and the rear end of the cylinder, lying behind one of the chambers not covered by the recoil-shield, and the front surface of this attachment occupies a position about on a line with the front of the recoil-shield. When the charging apparatus is not used, the proper operation of the arm is to load the chambers from the rear, through the opening in, or the cut away part of, the recoil-shield; then to place a cap on the nipple, and fire the

charge in line with the barrel, then to re-cock the gun, if the cylinder will revolve, take off the exploded cap, put on a new one, and fire again.

Int. 4. Please state particularly the office and the necessity of the breech-piece in the White pistol as constructed according to the patent, and its advantages or disadvantages for the purpose of rotating into position and successively firing such cartridges as the arm is capable of receiving and discharging.

Ans. The necessity of the breech-piece is to close the end of the chamber being fired, and by means of the hole through it, to direct the flame from the cap into that chamber without, if possible, permitting the fire to extend laterally and discharge other chambers. If it covers more chambers than one, it will, no matter how carefully it may be constructed, cause the fire from the cap at times to discharge more than one chamber at once; and I find from practice that each discharge fills the ball catcher with gas and drives the other cartridges rearward, so that when it is tried to revolve the cylinder, the projections of these cartridges towards the recoil shield will catch against the edges of the breech-piece or the edges of the cut away portion of the recoil-shield, and prevent a revolution of the cylinder. It is advantageous to have the breech-piece cover all the rears of the chambers, for the reason that the kicking back of the cartridges is thereby prevented, and the arm is capable of revolution. It is disadvantageous to cover the rear of all the chambers, because you then increase the liability of firing more chambers than one. The shape of the breech-piece in the patent cannot be ascertained with positive certainty. According to my best judgment it will, when made according to the directions and drawings of the patent, cover the upper chamber or that in line with the barrel, partially cover the two lower chambers and not project at all over the chambers immediately to the right and left of the one being fired, and when so shaped it is the best compromise between the two difficulties stated in this answer, although it overcomes neither.

Int. 5. Are you acquainted with the Heurteloup and Maynard Primers, so called? and if yea, state whether either of them can be applied to the arms described and represented in the White patent without material changes in its construction or operation, and if not, state why not.

Ans. The Heurteloup consists of a tube of metal filled with fulminate and lying parallel with the barrel in front of the hammer. There is mechanism to advance a portion of this tube over the nipple prior to each discharge, and the hammer is provided with a chisel so as to sever a piece before it explodes it. I do not see how that primer could be in any way applied to the White pistol without altering the shape of the cock and the position of the nipple, and even then the fulminate in the tube would be exposed to the fire flashing from the front and the rear of the cylinder. The Maynard primer consists of two strips of paper, a small pellet of percussion powder placed in a row with intervals between them, these strips are coiled in a small box which lies vertically under a part of the hammer, and a portion of the strip containing a pellet is fed over the nipple preparatory to each discharge. This primer could not be applied to the White pistol without bending the hammer over to the right and altering its shape, without extending the frame to the right to make a supporting place to the nipple, without taking the nipple out of the line of the barrel and placing it to one side and making a crooked passage from it to the chamber in line with the barrel, and then the case containing the primers would come in the way of the charging aperture through the recoil-shield.

Int. 6. Are you acquainted with the Day primer, mentioned in the deposition of Mr. Stetson, witness for complainant?

Ans. I am not.

Int. 7. Assuming it to be one which moves forward a succession of pellets, or wafers, of fulminate, which are successively exploded by the operation of the lock, and that the location of the reservoir, or receptacle of such pellets, is near the lock, but is not otherwise or more specifically defined, can you state whether the primer can be applied to the White pistol without material additions to, or alterations of, the construction shown in the White patent, and give your reasons.

[*Objected to.*]

Ans. It is impossible for me to give any opinion about it without examining the primer or a description of it. I cannot tell how to apply a thing when I do not really know what it is.

Int. 8. In the absence of an automatic primer or in the incapacity of

the White pistol to receive such a primer without material alteration or re-construction, what is your opinion of the practical utility of the White pistol, specifically or substantially, as shown in his patent, as compared with the Colt pistol, (revolver,) or the Allen revolver, or the Lefauchaux revolver; first stating whether you are acquainted with the construction and operation of the three arms last mentioned, having reference as to the Lefauchaux, to the pistol of 1845, and certificates of addition of 1846, with the translations thereof already made exhibits in this case.

[*Objected to.*]

Ans. I am acquainted with, and have fired the Colt and Allen pistol, and have examined the Lefauchaux patent and certificates of addition, and under the supposition that the White pistol would not be dangerous and could be made to be revolved after each discharge, I think as compared with them, that it would have no practical utility as a revolver, because it cannot be fired without removing a cap, and putting one on between each discharge; and the facility of firing rapidly in succession is the great and distinguishing utility of revolving fire-arms.

Int. 9. Will you look at the arm now shown you and made an exhibit in this case and marked "Renwick, N. A. P. Examiner," and state if you recognize the arm, and whether it has been altered since you first saw it, and how altered, and when and where you saw it before such alteration?

Ans. I do recognize it. It has not been altered since I first saw it unless the injuries it received in firing be called alterations, and the only alteration is that resulting from the straining of the arm from discharging it; and I saw it yesterday in what I was told was the factory of Allen & Wheelock, at Worcester.

Int. 10. Please compare that pistol minutely with the directions of the White Patent, and state whether it differs in any particular, and what, from the pistol described and represented therein.

Ans. It is not precisely like it in the shape of the handle, but in respect to the barrel, cylinder, breech, recoil-shield and nipple, it is made in accordance with the directions and drawings of the White patent, leaving out the charging apparatus and magazine.

Int. 11. Look at the pistol already made an exhibit in this case, and marked "Buckland," and state whether you find in it any departures from the construction shown in the White patent, and if you do, state the practical effects of such differences, if any, upon the actual working of the arm.

Ans. In the pistol marked Buckland, the breech-piece, lettered *p*, in the patent, is made much smaller than it is in the patent. It is beveled off on one side into an inclined plane, there being no directions so to do in the patent. The ball catcher has an orifice between its edges, and the cylinder nearly double in width of that shown in the patent, and the recoil-shield is shaped differently. The effect of these changes would be to lessen the danger of exploding more than one charge at once; to prevent the cartridge on the right hand of that being fired from being kicked backward behind the recoil-shield, as it would be sometimes in White's; to diminish the pressure of gas in the ball catcher, and thereby to a great extent prevent the forcing back of cartridges by the firing of one; and the shape and beveling of the breech-piece will enable it to shove cartridges into place, which, if not so shoved after being thrown backward, would prevent the revolution of the cylinder. The difference of shape in the recoil-shield, as I have said before, prevents the throwing back of the right hand cartridge, so that the recoil-shield itself cannot, as it does in White's patent, prevent the revolution of the cylinder. The pistol, in shape, and in precise arrangement of parts which are not material to its successful working, differs from the drawing.

Int. 12. Please examine the two cartridges now shown you upon a string, with label attached, having the words "duplicate Buckland cartridges" upon it, and assuming them to be like those which were fired from the pistol marked "Buckland" in experiments testified to in this case by the witness Buckland. State, if you please, what peculiarities, if any, you find in such cartridges, by reason of which, experimental firing of the Buckland pistol therewith would fail to afford practical demonstration of the utility or safety of the White pistol, as described and represented in his patent.

Ans. They both of them contain much less powder than would be ordinarily used in a chamber like that one on the cylinder of the Buck-

land exhibit. I cannot measure exactly, but between one-half and two-thirds of the proper quantity. This small quantity of powder would still further decrease the pressure in the ball catcher, and would therefore tend to prevent the firing of adjoining chambers from the front end, and also the kicking back of the cartridges so as to prevent the revolution of the cylinder. I also find that one of the cartridges is made of copper, with a small hole pierced through it, and with a flange, such as I do not know of as existing prior to White's patent, and that the leather shoe of the other cartridge has apparently been varnished, thus preventing lateral fire from entering the hole in its centre, and I know of no such cartridge having been made prior to White's patent.

Adjourned to 29th inst., at 10 A. M.

Examination resumed 29th April, '63.

Int. 13. Please recur to the consideration of the pistol labelled "Buckland" and explain the practical operation of that pistol *with* the use of the magazine.

Ans. In firing with that pistol, or with one made like the White patent *with* the magazine, the procedure would be to cock the pistol so as to charge one chamber, then to let the pistol down and cock it again so as to bring the charge chamber in line with the barrel, and charge another chamber, then to put a cap on the nipple and fire a charge, then draw back the hammer which would revolve the pistol and charge a third chamber, then take some instrument and pull out the case of the exploded cartridge, next take off the exploded cap, then re-cap and fire again: and this uncapping, re-capping and punching out of the cartridge case would have to be performed between each successive fire.

Int. 14. Would this extraction of the case of the exploded cartridge be readily done, or an inconvenient operation? and state the reason.

(*Objected to, not for form.*)

Ans. It would not be very readily done, as it would have to be removed by an instrument acting on the rear of the chamber; a small, sharp pointed metallic hook appearing to me to be the best instrument that could be used for the purpose.

Int. 15. Please look at the translations, marked "Charles Folsom,"

of the Lefauchaux patent of May 2d, 1845, and the certificate of addition, February 7th, 1846, and state what is the nature of the invention which they exhibit, taken together.

Ans. The invention set forth in the original patent is a very simple mechanical arrangement for constructing a breech-loading fire-arm having a single barrel and in such way that it can be loaded, from the rear forwards, with a ball, powder and a metallic shoe containing a primer, the arm having no nipple, and the mechanical arrangement being such that the barrel, open at the rear, revolves past a stationary flat breech, which prevents the shoe from kicking out and takes the recoil. In the certificate of addition of February 7th, he states that he has invented improvements principally relating to pistols with several barrels. He states that such pistols having revolving barrels are slow to load when made in the ordinary French or Belgian way—such slowness arising from the necessity of unscrewing and screwing on each barrel separately, and of capping each barrel. He then goes on to state that his improvement consists in leaving all the barrels open at the rear, and confining them by a screw and rod against a flat plate which serves as a breech-piece. He states that the invention is applicable to those systems in which the cartridge carries the priming upon it, as well as to those which have not the priming upon it, and represents in the drawing a pistol having a small slot at the end of the barrel leading from the inside of the cartridge chamber outward, in which an ordinary French shoe cartridge, with a primer attached and making part of the cartridge, might be used and fired. It is stated, near the end of this certificate of improvement, that the "new arrangement is applicable with the same ease to all the mechanisms belonging to pistols with several barrels as well as in general to the different breech-loading fire-arms."

Int. 16. Do you understand the French language, particularly as used in mechanical descriptions, and are you accustomed to the translation thereof?

Ans. I understand French tolerably well, especially that used in descriptions of machines, and have often made translations for use in court and for other purposes.

Int. 17. Please refer particularly to the last paragraph but one in Mr. Folsom's translation of this certificate of addition just referred to, and state whether he translated it correctly. And state also what constructions of fire-arms the term "*armes se chargeants par la culasse*," as used in descriptions of fire-arms in French, embraces.

Ans. I think the translation is substantially correct. The words, "*se chargeants par la culasse*," are used in French descriptions as applied to arms loading from the rear forward as in the pistol described in the Lefauchaux Patent,—to arms, of which the old Hall carbine may be taken as a type, in which the cartridge chamber turns on a hinge in the rear of it, and the load is put in, powder first, from the front rearwards, being in that respect like the loading of a revolving cylinder fire-arm of Colt. It is also applied to many-chambered revolving cylinder fire-arms, in that respect like the Colt fire-arm. And the revolving cylinder of a pistol with a single barrel is, in one instance that I now remember, called "*la culasse*."

The phrase is applied to the two first kinds of fire-arms named in the answer in "*Manuel de L'Armurier*." In that same work it is also applied to a fire arm with four revolving chambers—Chire's—and that same fire-arm of Chire was patented July 25th, 1836, and it is described in the 45 vol. 1st series of *Brevets d'Invention*, page 29, where it is also called an arm "*se chargeant par la culasse*." The word "*culasse*" is applied to a revolving cylinder in the Hartog and Devos patent of 16th June, 1853.

Int. 18. Please state the character and authority, if you know the same, of the work entitled "*Manuel de L'Armurier*," mentioned by you.

Ans. It is one of the "*Manuels Roret*," which, taken collectively, are an encyclopædia of the useful arts. It is a work that I often resort to, and I have seen other people examine it.

Int. 19. In view of the nature of the invention disclosed in the Lefauchaux Certificate of Addition, of February 7th, 1846, considered in connection with the original invention patented in 1845, what class of arms, if any, is that to which the application suggested by Lefauchaux in the particular paragraph in question may be made? and give your reasons.

[*Objected to.*]

Ans. I have no doubt that it refers in that paragraph to arms having rotating chambers or cylinders of the general character of Colt's fire-arm, and to such arms only; being of this opinion for three reasons. First, because he shows in the original patent how his invention is applied to fire-arms *without* rotating or sliding breeches. Second, for the reason that the invention set forth in the certificate of addition is applicable only to fire-arms with several revolving barrels or with a revolving cylinder. And the words "*se chargeants par la culasse*," in the paragraph, must refer to arms with revolving cylinders, or have no meaning at all. And the third reason is, that I find that French phrase applied in the Chire patent to a revolving cylinder fire-arm.

Int. 20. Please look at the three defendants' pistols, exhibits in this case, and state whether you find in either of them, and which, anything which performs the office, or would answer the purpose of the breech-piece in the pistol shown in the White specification and drawings.

Ans. I do not find in any one of them a breech-piece sufficiently close to the rear of the chamber, which is to be fired, to serve as a recoil-preventer to a leather shoe, applied either to loose powder or a pasteboard cartridge; and I do not find in any of them a breech-piece with a hole in it to direct the fire from a cap to one cartridge; and even if that breech-piece were bored through, it is so far from the rear of the chambers that the hole in it could not direct the fire from the cap properly. In all these respects the defendants' breech-pieces differ from that described and represented in the White patent.

Int. 21. Have you recently witnessed experiments with a pistol constructed according to the specifications and drawings of the White patent? If so, produce the pistol, and state when and where, and in whose presence the experiments were conducted, and what were the results.

Ans. I have witnessed such experiments with the pistol now produced by me, marked "Renwick." The experiments were made at Worcester, on the afternoon of the 27th April, inst. Mr. Prescott was present, Mr. Hervey Waters, also Mr. Allen and Mr. Wheelock, and four or five others, whose names I don't know. The pistol was held in a vise, and fired with a string attached to the trigger. The balls passed

through an open window. Some of the cartridges were filled in my presence, some by myself, and of other cartridges I took one or two at random out of the lot, and broke them open to see how they were loaded. At the first firing the pistol was loaded with five cartridges like exhibit "White, R. 1.;" one filled with powder by myself, and in line with the barrel, and the others also filled partially by me and partially in my presence. On firing the pistol only one charge exploded, and the pistol could be revolved afterwards. The character of the report showed that the powder was damp. The third experiment had the same load as the first, the cartridge in line with the barrel, exploded only, and of the other cartridges one was driven back about one-quarter and the other about an eighth of an inch by the explosion, and the pistol could not be revolved. On the fourth experiment the load was the same as the first, except that the shoes and cartridges including the ball, were driven into the chambers with an iron rammer, from the rear forwards. One charge only exploded, and the pistol could be revolved.

In the second experiment, the load was the same as the first. One exploded, two driven back about an eighth of an inch, and the cylinder could not be revolved.

In the fifth experiment, load same as the first. One charge exploded, one driven back, and pistol could not be revolved.

In the sixth experiment, load same as the first. One exploded, two driven back, and could not revolve.

In the seventh experiment, load same as the first, except that two of them had full charges of powder. One only exploded, two were driven back, and the pistol could not be revolved.

The eighth experiment was made with a pistol like the pistol of which the broken parts are made an exhibit, loaded with three Marston cartridges. One exploded, two were driven back, and the cylinder could not be revolved.

The ninth experiment was made with the same pistol as the first seven experiments, loaded with three Marston cartridges, being the same as the so-called White cartridge, except that the hole through the shoe was not conical. One exploded, two were driven back, and the pistol would not revolve.

No. 10, same pistol, same load. One exploded, and two were driven back,—one of those driven back being broken in two, and the leather shoe blown out rearwards, so as to expose the loose powder at the rear of the chamber.

No. 11, same load as No. 10, same pistol, and same result.

No. 12, same load as No. 10. One exploded, and two driven back; pistol could not be revolved.

No. 13, same load and same result as No. 10.

No. 14, the pistol was loaded with three wooden cartridges, like the one produced, marked "R. 2," only the hole was smaller. One exploded, the others were driven back, and the cylinder could not be revolved.

No. 15, same load as 14; same result, except that the cartridges were only driven back a little, and by working the cylinder backwards and forwards, I was able to revolve it.

No. 16, same load and same result as No. 14.

No. 17, same load and same result as No. 15.

No. 18, three chambers loaded with ball, loose powder, and a leather shoe, with a very small hole, like exhibit "R. 3." One exploded, one shoe driven back, and the cylinder would not revolve.

No. 19, same load as 18. One exploded, two driven back, and the pistol could be revolved with difficulty, by oscillating it backwards and forwards.

No. 20, same load as 18. Two charges exploded, and one shoe was driven back so that the pistol would not revolve.

No. 21, same load as No. 18. One charge exploded, one shoe was driven back about eight feet, striking a counter, and the loose powder was left exposed in the rear end of the chamber.

No. 22, load same as No. 18, and result the same.

No. 23, load and the result same as No. 18.

I see by reference to my minutes that I have skipped a number, and the next experiment is numbered 25.

No. 25, the load and result were the same as No. 18.

No. 26, load and result same as No. 18.

No. 27, load and result same as No. 18.

No. 28, the pistol was loaded with three loaded balls, with cork shoe, like that marked "(R. 4)". Two exploded, and the pistol would not revolve, and the ball-catcher was damaged.

No. 29, load and result the same as No. 28.

No. 30, load and result the same as No. 28.

No. 31, the pistol was loaded with three copper cartridges, with paste-board shoe, like that produced and marked "R. 5," one was exploded, one driven back 3-16, and the shoe in the other was turned round and the loose powder exposed at the rear; the cylinder would not revolve.

No. 32, load was as in No. 31; two charges exploded, and one ball and cartridge thrown out rearwards eight or ten feet. On examining the pistol after this firing, it was found that the ball had stuck in the barrel, and the ball was drilled out and the barrel cleared before re-commencing.

No. 33, the load was three copper cartridges with a lead shoe like that produced, marked, "R. 6." Two exploded and one was driven back; the pistol could not be revolved.

No. 34, load as in 33; one exploded, one driven back a quarter of an inch, and one a thirty-second, and the cylinder could not be revolved.

No. 35, same load as 33; one exploded, one driven back half an inch; pistol could not be revolved.

No. 36, the pistol was loaded with three paper cartridges with copper shoes like those described in the Manuel de l' Armurier, and like that produced and marked "R. 7." One exploded, one blown back an eighth, and one blown clear out at the rear, and broken in two; cylinder could not revolve.

No. 37, load same as 36; one exploded, and two blown back; could not revolve the cylinder.

No. 38, load as 36; two charges exploded, and could not revolve the pistol.

No. 39, three cartridges like those produced, marked "R. 8;" one exploded, one was driven out backwards three-eighths, and the other one-sixteenth; could not revolve.

No. 40, load as in 39, result the same, but I did not measure how far the cartridges were driven back.

No. 41, load and result, same as in No. 40.

No. 42, three barrels loaded with cartridges made with a cork shoe, like exhibit "R. 9;" one exploded, one was driven back half an inch, and the other about an eighth, and the cylinder could not be revolved.

No. 43, load and result, same as No. 42, except that the cartridges were not driven back quite so far.

No. 44, load as 42, and all three charges went off. It was then too dark to try any further experiments.

The firing took up about three hours and twenty minutes, but I did not time it to a minute. During this time, the pistol was loaded either by one of the men in my presence, or by myself, and about 15 or 20 minutes of the time was expended in getting out a ball that stuck in the barrel. We were several times obliged to drive out the cylinder with a hammer, owing to its sticking from more cartridges than one exploding at once, or from the violent throwing back of the other cartridges, and the pistol had not all its charges loaded during the experiments, for the reason that I was afraid of blowing it up before completing them, as I found that explosions out of the line of the barrel, were more apt to explode other cartridges, and to drive back and jam cartridges, than explosions in the line of the barrel. I could not see, from where I stood, the pistol when the string was pulled, but I could see that when more charges than one exploded, that the fire was thrown with great force out of the rear of the chambers.

Int. 22. What is your judgment as to the practical utility of an arm operating with such results as those you have just testified to? and state the reasons of your opinion.

[*Objected to.*]

Ans. My opinion is that it would be practically useless by reason of the necessity of taking off the exploded cap and capping it after each discharge, and by reason of the prevention of the revolution, owing to the throwing backwards of the cartridges or shoe by the expansion of the gas in the ball catcher. I also believe the arm to be so dangerous to the user if held in the hand, owing to the firing sometimes of more than one charge, and the consequent shooting rearwards of the chambers, and the liability to break up the arm, that no one would

practise or shoot with such a weapon. I would not do so myself with any of the cartridges that I have tried.

And in reply to cross-interrogatories propounded to him by E. F. Hodges, Esq., counsel for complainants, deponent saith as follows, to wit:

Cross-Int. 1. In your direct examination you have spoken of certain measurements of pieces, and of positions of the mechanism described in White's patent. How do you ascertain those measurements; from the drawings annexed to White patent?

Ans. The measurements from the drawings; and the position from the drawings and description.

Cross-Int. 2. In drawings from the patent office, what do dotted lines signify?

Ans. I can't tell what they signify in *all* the drawings from the patent office; but in drawings of machinery generally, the proper rule is to represent in dotted lines, those parts which lie behind something else which is represented in the full line.

Cross-Int. 3. Referring to the copy of White's patent before used in this cause, state what is represented or signified by the letter M in figure 4 of the drawings.

Ans. That letter is placed within certain full lines which represent the outline of the stock of the pistol at the place where the section is taken.

Cross-Int. 4. Look at the pistol Exhibit "Renwick" and state what you find in said drawings that represents the projection of brass and iron projecting above the chamber, on the left of the chamber in the line of the barrel.

Ans. I find it in figure 4, shewn by full lines above the cartridge chamber, where the letter G is marked upon the drawing.

Cross-Int. 5. Is not the projection you have pointed out in the drawing a part of the stock of the pistol, and what reason have you to suppose that that is not a part of the stock of the pistol, if it is not.

Ans. It is not a part of the stock of the pistol, and the drawings make it perfectly certain that it is not; because the parallel lines, shade

lines, indicating where the stock is cut through, do not extend over the projection referred to in the question.

Cross-Int. 6. Is not the projection, in the drawings referred to, a part of the magazine?

Ans. It is not; and the drawings show clearly that it is not, because the magazine where cut through in the section figure 4, is represented by parallel section lines, as is proper, and these section lines do not extend over the projection.

Cross-Int. 7. Will you point out how the magazine, described in White's patent and represented in the drawings, and especially as represented in figure 4, can be applied to a pistol like exhibit "Renwick," having the said brass and iron projection?

Ans. By shoving the magazine under the brass part of the projection, and brazing it fast to it and the pistol stock and the piece of brass extending below.

Cross-Int. 8. Would an arm with the magazine thus attached to the pistol, be like the arm described in White's patent?

Ans. It would, if the changes were made required by the use of the attachment to the hammer to close the mouth of the magazine.

Cross-Int. 9. How could such an attachment to the hammer operate, if the said brass and iron projection remained on the pistol, as it now appears?

Ans. If the attachment to the hammer were to be put on, the iron part of the projection and the corresponding iron part below the left hand chamber would have to be cut away, in order to admit of the descent of the attachment; and that attachment, at the moment of firing, would not only take the place of the two projections, but would cover the whole rear end of the left hand chamber.

Cross-Int. 10. Looking at the pistol, exhibit "Renwick," state whether the iron breech-piece does not cover a portion of each of the two lower chambers.

Ans. It extends over a very small portion of the rear of the two lower chambers in the cylinder.

Cross-Int. 11. Looking at figure 4 in the drawings, state whether the piece, marked M, is represented as extending over both of said chambers.

Ans. The piece, M, is a part of the stock or handle, and, of course, extends over none of the chambers, and does not come, where the section is taken, within half an inch of any of them.

Cross-Int. 12. Does not the piece M extend below one of those chambers, as represented in the drawing?

Ans. The precise shaped stock, represented in the drawing, is, at the point where the section figure 4 is taken, on a lower level than one of the chambers. The shape of that stock at that point is entirely immaterial to the action of the pistol.

Cross-Int. 13. Looking at figure 4, state what is represented by the lowermost full curved line in that figure.

Ans. The outline of the recoil-shield.

Cross-Int. 14. Can you tell by the patent drawings and description, the form of the breech-piece in the White arm?

Ans. I have stated in my direct examination, that it was not possible to obtain the shape exactly; but taking in consideration figure 4, figure 2, and figure 1, and applying to them the rules of mechanical drawing, I have no doubt that I have reproduced it, as to its lower contour, as nearly as can be done from those drawings. Figure 4 shews, by the *absence* of dotted lines, that the breech-piece must be of the same shape as the section through the stock; and figure 1 shews that its lower extremity is to extend below the line uniting the tops of the two lower chambers. There is no hint in the patent, that it is to be cut away so as not to extend over those chambers, and the patent does show that the attachment to the hammer covers the rear of the chamber immediately on the left hand of that one fired. Taking all the indications of the patent together, I ordered the lower part of the breech-piece to be constructed in a gradual curve, the lower part of which is extended as low as is required by figure 1.

Cross-Int. 15. Look at exhibit "Renwick," and the defendants' pistols before examined, and exhibits in this case, and state whether the space between the cylinder and the stationary barrel is not greater in the said exhibit "Renwick" than in the defendants' pistols.

Ans. I cannot measure the difference without a micrometer. Judging by looking through them at the light, I should say, that in the de-

fendants', marked "Bacon Mfg. Co." the distance referred to is about the same as in exhibit "Renwick"; and that in the other two pistols it is slightly less. And I would remark, in this connection, that the frame of exhibit "Renwick" has been strained by the experiments. The drawing of White shews the barrel and cylinder in contact. A pistol so made would not be practicable, and could not be used. I know this from my knowledge of revolvers, — (Counsel for complainants requests the witness to confine himself to answering the question,) — and I directed exhibit "Renwick" to be made with the distance to be made between the barrel and chambers, as usual in revolvers of that size.

Cross-Int. 16. In the defendants' arms, is it not the tendency of the cartridge, when fired, to throw forward the chambered cylinders more closely against the stationary barrel?

Ans. It is; until the ball, or some portion of the ball — half of it in a spherical ball — has entered the barrel; the tendency then is to throw the chamber backwards.

Cross-Int. 17. Examine pistol exhibit "Renwick," and state whether you observe on the breech-piece, and nearly in a line with the barrel, two rings marked upon said piece; if yea, state what is the cause, if you know.

Ans. I see one ring clearly, and I see other marks which, perhaps, may be called a ring, on the pistol. The most defined ring appears to have been made in the original construction of the pistol, and the other marks by the fire of the percussion cap, or of the charge; but I do not know what made either of them.

Cross-Int. 18. How do you account for the bruise in that portion of the "Renwick" pistol, which is called the ball-catcher, and on the left side?

Ans. As far as my memory serves me, and by looking at my minutes, I can answer with tolerable certainty, that it was made by one of the loaded balls, like exhibit "R. 4," when two of them exploded at the same time.

Cross-Int. 19. What was the powder used in the experiments you have related?

Ans. I don't know whose make it was. Some was coarse and some

was fine. I know that it was gunpowder of fair quality from the effects it produced.

Cross-Int. 20. What were the balls made of, in all those experiments?

Ans. Of lead, I believe, like the sample. I cut some of them, and marked some with my knife.

Cross-Int. 21. Do you know the Heurteloup cartridge?

Ans. I can't say that I do. I can now remember no cartridge known by that name.

Cross-Int. 22. What do you call that cartridge with the leaden butt, or shoe, and paper case?

Ans. I know of no such cartridge, except those spoken of in this case. I know of a cartridge, known prior to White's patent, with a copper shoe and paper case, such as I fired marked "R. 6."

And in answer to direct interrogatories resumed by Causten Browne, Esq., counsel for respondents, deponent saith as follows, viz :

D. R. Int. 1. What do you understand to be the intended or prescribed construction of the White pistol when not intended to be used with a magazine?

[*Objected to.*]

Ans. The patent gives no precise directions as to the breech-piece and shield when the magazine is removed, as the forward face of the attachment to the hammer covers the rear end of the left hand chamber at the moment of explosion. I think the fairest plan would be to construct it, when used without the charger, with a fixed piece of metal taking the place of the front face of that attachment; but the pistol might also be constructed as represented in the drawing, merely taking away the magazine and ramrod and unscrewing the attachment from the hammer.

D. R. Int. 2. What precautions were taken, if any, in the experiments you have testified about, as to having the bore of the chamber to be discharged in line with the bore of the stationary barrel?

Ans. There was a bolt to hold the chambers in place as usual, and I examined the pistol after every discharge,—certainly with two or

three exceptions, and I think every time,—before any one touched it and before it was taken out of the vise, looking amongst other things if the chambers still remained in their proper position. I have no notes that they were found out of that condition, and do not remember that they ever were so.

HENRY B. RENWICK.

Boston, April 29th, 1863.

Subscribed and sworn to before me.

N. AUSTIN PARKS, *Examiner*.

DEPOSITION OF HERVEY WATERS.

Hervey Waters, a witness produced by the respondents, being duly sworn, doth depose and say in answer to interrogatories proposed to him by Causten Browne, Esq., Counsel for respondents:

Int. 1. What is your name, age, residence, and occupation?

Ans. My name is Hervey Waters; age, 59 years; residence, North-bridge, in this State; occupation, machinist.

Int. 2. Please state what experience you have had in the examination and comparison of mechanisms, upon questions of substantial identity and difference, whether for purposes of judicial investigation, or otherwise.

Ans. My experience in such examinations for the purposes of judicial investigation, has been considerable, during the period of some 15 years or more, as I have been frequently called as an expert in patent causes in several Circuits of the U. S. Court.

Int. 3. Have you examined a certified copy of the patent of Rollin White, upon which this suit is founded, and do you understand the construction of the instrument there shewn, and its proposed and intended operation?

Ans. I have examined that patent, and believe I understand its construction and intended modes of operation.

Int. 4. Please state the construction, purpose, and intended operation of the mechanism exhibited in that patent, so far as relates to the subject matter referred to in the first claim in the patent.

Ans. The general mode of operation, is of the class of repeating fire-arms, and, as the patent describes this arm, it has two methods of operation; one being to repeat by using a succession of cartridges taken one after another from a magazine, and firing, not the last one taken from the magazine, but firing the last but one taken from the magazine, and holding the last one taken from the magazine in reserve in the chambered carrier of the instrument when so used. The other method of use is by charging the cylinder of chambers with as many cartridges as it will carry, and then firing them in succession, by the rotation of the cylinder, through a long barrel; but in both methods of firing, using a percussion cap for each discharge, which must always be supplied to the nipple at every discharge, however the piece is used, and in both methods of use the cartridges pass into the chambers at the rear end of the cylinder.

Int. 5. Please state the essential functions, upon the right performance of which, the safe and efficient action of an arm having the charge inserted at the rear of chambers, in a revolving cylinder, and to be discharged through a stationary barrel, depends.

Ans. In order that an arm of the repeating class, having several chambers, two or more of which are to contain charges at the same time, and having the chambers bored through at the breech, should perform properly and at all safely, it should be so constructed, and have such cartridges as at the time of discharge of one of the cartridges, that one chamber should be substantially tight at the discharge, by the peculiar character of the cartridge used, so that the explosion of the charge should pack the joint at the rear end of the chamber, or else that the arm should be of itself so constructed as to make that joint tight; and moreover, it is essential that the cartridge in the immediate neighborhood of the exploded one, which is there held in reserve, should be well guarded against any chance of being ignited by any escape of flame, if possibly there may be any, from the exploding charge; and, at the same time, there must be some means of igniting the powder

within the cartridge from without the cartridge, for that one which is to be exploded when desired.

Int. 6. In your judgment, are the specification and drawings of the White patent sufficient to enable a workman skilled and well informed in the manufacture of fire-arms, at the date of the patent, to construct a practically operating arm upon the principle of that described in the specification and represented in the drawings, (referring particularly to the construction and arrangement of the rotating cylinder and coöperating parts,) and if not, will you state why not?

Ans. I think the specification and drawings in the White patent are insufficient for the production of a good and safe arm. And not because they do not sufficiently describe the instrument intended to be described, but because an instrument made in accordance with that description would not be practical. Taking the intended mode of operation, where the magazine is to be used as described, my opinion is that it is entirely impractical. Going to the other mode of operation, and using any cartridge with which I am acquainted, I do not now see how it could be used to any practical advantage.

Int. 7. Perhaps the terms *practical* and *impractical* may be considered of doubtful meaning. Will you state whether, in your judgment, an instrument made in accordance with that description and the drawings, would be a useful instrument for the purpose contemplated, or a useless or pernicious one.

Ans. I do not know of any cartridge which could be used in this instrument, as described in this patent, which would render the instrument in its use, otherwise than pernicious.

Int. 8. What characteristics must a cartridge possess in order to be capable of use in the arm there described and represented, to relieve the arm of its pernicious character?

Ans. It is quite likely that a cartridge having a metallic case holding the powder, and attached to a ball in front, having a hole through the centre of the case at the end next the breech-plate, made of such dimensions and proportions as that it might be thrust forward into the taper of the bore of the chamber so as to stick there, and not be in danger of sliding back (in the chambers that are not against the breech-

plate,) and moreover having the hole in the centre of the case guarded against flame from without, and still not so strongly guarded but that the force of the flame of the cap, when exploded, would make its way through to the powder, might be used in this pistol with some success.

Int. 9. You have specified one form of cartridge which might be used with some success; will you please recur to the 8th interrogatory, and give a more general and comprehensive answer, if you can?

Ans. One essential characteristic of a cartridge which I have described, is, that by the explosion of the charge, the metallic case yielding to the pressure of the explosion will pack the joint at the rear end of the chamber so that there can be no escape of flame, or at most very little, except there be some imperfection or breach in the thin metal of which such cases are usually made, at or near the joint. Another characteristic is that the hole of the centre of the cartridge through which the charge is to be ignited from without, shall not be a hole until it is blown through by the explosive force of the cap; and, furthermore, it must be of such dimensions as will carry the ball forward to that point in the tapering bore where the bite upon it shall hold the ball in its place, so that the other end of the cartridge shall be in a position nearly on a line with the rear end of the cylinder.

Int. 10. What indication do you find in the specification and drawing of the White patent that the efficient and safe use of the arm requires that the breech shall be closed after the charge is inserted and before it is exploded?

Ans. The directions of the patent are to so construct and use the arm as that the cartridges may be inserted at a point in the cylinder other than the point at which they are discharged, and by the rotation of the cylinder the cartridges are carried to another point for being discharged, where is a stationary breech-piece, for the purpose of closing the aperture after a manner, and which is entirely sufficient, if the cartridge be so constructed and used as to pack the joint at the time of explosion; but if the cartridge does not so pack the joint in this arm, there will be a sheet of flame radiating from the bore in every direction at the time of discharge, which, by its projectile force, will insinuate itself between the cartridge and whatever there may be behind it in the

next chamber to the one exploded, greatly endangering the neighboring charge, particularly if the neighboring cartridge has any opening in its case, through which this projected sheet of flame might enter to the charge; and I see no directions in the patent, or suggestions, as to the peculiarity of case which shall so pack the joint.

Int. 11. Apart from the use of any particular cartridge adapted to pack the breech, is the construction of the piece shown in the specification and drawings such as will accomplish that object?

Ans. No.

Int. 12. What indication do you find in the construction of the arm, given in the specification and drawings, as to what kind of cartridge the arm is designed to receive, or is capable of receiving, for practical use?

Ans. The construction of this arm requires that the cartridge should be made up in one piece, and that the case enclosing the powder should be weak enough to admit of being pierced or perforated by the explosive force of the cap, so far as the description goes.

Int. 13. Do you find in the specification or drawings any indication that one kind of cartridge rather than another, or one kind of cartridge instead of another, is to be used therein, or may or may not be used therein, so long as the cartridge is such as to permit the access of the flame from the percussion cap?

Ans. There is one other condition required fairly by this description, and that is, that the cartridge should be in one entire piece, when made up, in order that the bite of the ball may hold the cartridge in the bore of the cylinder; and that that piece, when so made up, should not project much beyond the rear of the cylinder or lack much of reaching to the end of the cylinder.

Int. 14. If the particular cartridge or cartridges, if any, which may be adapted to pack the breech, be not used, and in the absence (as I understand you to say is the case), of such a construction of the parts of the arm as will answer that purpose, what pernicious consequences will follow, or be likely to follow, from the ordinary use of the arm? Please state fully.

Ans. In the exploding of the charge intended, there is great liability of exploding a part or all of those not intended. The patent provides

for so holding the balls, in the case of such explosion, as that they might not be projected beyond a guard fixed to receive them; but the very holding of the ball so that it cannot project, will greatly increase the force exercised by the explosion of the powder. Now, then, if one charge be exploded next to the one intended to be fired and exploded, and the ball so held that it cannot be thrown out, the whole force of the charge will be exerted in throwing out a jet of flame at one end or the other, or at both ends of the cylinder; and this jet of flame, escaping under the great pressure of the explosion, will, in its escape from the joint, immediately enlarge itself in thickness, so to speak, and insinuate itself into the other neighboring charges, so that several of them may be, and will be likely to be, in the act of explosion simultaneously, whereby the whole fabric would be greatly endangered; and if the whole thing were not blown to pieces, it would be because it is very strong,—too strong and too heavy for the purpose intended: and besides, the whole of the working parts will become impregnated and filled with a deposit accumulating from the combustion of the powder, so as to destroy its working qualities; and, moreover, it is quite certain that there can be no further use of the weapon until it is recharged throughout, or, at any rate, to some extent.

Q. 13. Have you examined a certified copy of the Hartog & Devos patent, granted in Belgium, 25th May, 1853; an official copy of the specification and drawings of patent granted in England, to John Henry Johnson, 24th June, 1854, for improvements in revolving fire-arms; certified copies of French letters patent for improvement in breech-loading arms, granted to Lafaucheux, 2d May, 1845, with certificates of addition thereto, dated 7th February, 1846, and 25th May, 1846, respectively, with papers purporting to be translations of these three Lafaucheux descriptions, made by Mr. Charles Folsom, and to be hereafter proved by him, these said several papers and drawings being identified by the signature of the Examiner upon each and being now exhibited to you, and do you understand the construction and operation of the arms described and represented in them respectively?

A. I have examined all those papers inquired about, and believe I understand the descriptions therein contained.

Int. 16. Are you familiar with the construction and operation of the Colt revolver, so called, and of the pepper-box pistol, loading at the muzzle, and known as the Allen pistol?

Ans. I am.

Int. 17. How long have you known each of these arms in public use, in the United States.

Ans. Some fifteen years, more or less.

Int. 18. Please state what is the substantial mechanical contrivance which you find described and represented in the Lefauchaux specification and in the several certificates of addition just referred to, its operation and purpose.

Ans. It is a contrivance for the purpose of using a bore open at the rear end, so that the charge may be there inserted, and then, by turning the bore around an axis, to be able to bring it into the line of discharge upon a stationary breech piece, so that, by the act of turning to position, the bore shall be substantially closed at the breech — in contra-distinction to unscrewing the barrel from its position for the purpose of loading it at the breech, and then screwing it on again before firing. The loading at the breech in some way being essential in all firearms having a very short barrel, because if loaded at the muzzle no considerable projectile force can be obtained, in consequence of the ball escaping too easily from the barrel, whereas if loaded at the breech the ball may be larger than the muzzle of the bore, whereby the ball in its passage out is slugged, in technical phrase, and retained in the barrel until the greater explosive force is arrived at behind it, and much greater speed obtained at the time of exit from the muzzle.

The mechanical contrivance for that purpose in all the descriptions of Lefauchaux, is by hinging the barrel upon an axis parallel to the bore of the barrel, whether one or more barrels are used, so that the bore may be swung away upon the axis from the guard, or heel plate, for the purpose of loading, or else so that the whole of the barrels, where more than one is used, may, for the purpose of loading, be taken at one operation from a heel plate, and when loaded to be replaced, and where more than one barrel is used the whole are swung together at each

alternate discharge, for the purpose of bringing each bore in the line of discharge that it may be discharged.

Int. 19. Is the closing, or packing, of the bores at the rear, after the insertion of the charge, a characteristic and essential element in the mechanism, or contrivance, shown in these descriptions and drawings, and if so, what means of so doing, if any, is there shown?

Ans. In all these descriptions, as I understand them, there is some kind of case used for holding the powder, which case is solid at the rear end, having a nipple on the side for carrying a cap, or capsule, all of which is to be inserted in the open bore at the rear, and when fired is to rest back against a recoil plate, and there made to set firmly by screwing the chamber and cartridge up firmly, or closely, against the recoil plate — said recoil plate, where more than one barrel is used, turning with the barrels, but where the single barrel is used, I believe, the recoil plate is stationary and does not turn with the barrel, but when the discharge takes place, that one is held firmly upon the other-wise open bore of the barrel.

Examination adjourned to Wednesday next, 15th inst., at 10 o'clock, A. M.

Adjourned to 28th inst.

Direct Examination Resumed.

Int. 20. Please recur to the subject of the 13th interrogatory and answer it more directly.

Ans. I named one condition which I considered fairly presumptive from the character of the arm described, but I find no special instructions in the patent in regard to that condition any further than is to be presumed from the use of the magazine, in which use of course the cartridges must be made up, but not necessarily of any particular dimensions as to length. With the exception of that condition, I have not been able to find any specific or implied directions as to any peculiar cartridge to be used.

Int. 21. Please state the purposes which are answered by such a

construction and mode of operation as is exhibited in the Lefauchaux specification and drawings.

Ans. In my answers to the 18th and 19th interrogatories, I have stated the mechanical contrivances and purposes substantially, as I understand them, of Lefauchaux. I think in my answer to the 19th, when I said the cartridge cases of Lefauchaux carried a nipple, that I was mistaken. I now think the cartridges carry the cap within them and are exploded by a pin passing through the shell of the cartridge, which is struck from without by the cock or hammer of the arm. I believe otherwise that description is correct as far as it goes, and I believe also that the peculiar character of the case of the cartridge is very important in this invention, from the fact of its being exploded within instead of from without, and also in the further fact of its packing the joint by the explosion of the charge at the rear of the bore, so as to prevent any escape of flame or of fouling matter so as to endanger the explosion of the other charges, or so as to foul the weapon in its working parts, whereby it would soon become unmanageable in ordinary hands. [And I believe it will be found that the present success of this kind of arm is due more to that characteristic of cartridge used than to any one thing else.]

The portion of the answer in brackets objected to.

Int. 22. Please state how far, if at all, the answering of such purposes as were last enquired of, or the advantageous use of the mode of operation shown in Lefauchaux is dependent upon or limited by the greater or less length of the barrels or chambers, or the presence or absence of a supplementary single barrel arranged in front through which the charges may be successively discharged.

Ans. I do not know that the greater or less length of the barrel precludes the use of this invention and mode of operation and the benefits arising from it, but it is undoubtedly true that if the barrels were very long, one of the benefits arising from it would be nearly if not quite lost, and that is the benefit of being enabled to slug the balls, because in long bores sufficient force could be obtained without the slugging, in short bores it cannot. So also in the use of a supplementary barrel in front, the mode of operation and the benefits to a considerable

extent, of Lefauchaux's inventions, may be obtained, but inasmuch as the slugging of the ball is usually obtained in the long supplementary barrel it is of but little consequence at which end the cylinder is loaded, or the short barrels of the cylinder are loaded, and therefore this advantage does not obtain of slugging the ball by loading at the rear end when the long supplementary barrel is used, so that all the advantages of Lefauchaux's mode of operation are only obtainable with short barrels. Otherwise than the slugging of the ball I believe the advantages are very similar whether the barrels are long or short, or whether a supplementary barrel is used or not.

Int. 23. Please compare the pistol shown in the White specification and drawings with that shown in the Lefauchaux specifications and drawings, and state whether or not you find the functions of the rotating cylinder A, and coöperating parts in the former performed by the rotating barrels and coöperating parts in the latter, and to what extent?

(Objected to, but not for form.)

Ans. The rotating cylinder A in the White patent, and the rotating barrels in the Lefauchaux, are the same substantially in their functions, as far as the boring through is concerned so that the chambers may be loaded in the rear by hand. The Lefauchaux, as constructed, was not intended to be loaded by a self-acting charger. There is also another difference, which is that the White cylinder may be loaded from the rear by hand without taking it from its place in the arm. In regard to the coöperating parts, and for the purposes of discharge, there are differences. In the White patent, for the purpose of repeating the discharges, it is necessary after the first discharge to remove the shell of the exploded cap from the nipple and place another cap upon the nipple before a second discharge can be made, while in the Lefauchaux each cartridge carries its own fulminate, so that no such manipulation is necessary to repeat the discharge. In the White arm there is great liability to accidents and derangement, from the fact that you are enabled to load the cylinder in the rear without taking it from its place, because that one of the bores which is left open in the rear and uncovered, for the purpose of being enabled to load there, has nothing to secure the cartridge in its place except such bite or friction as may be obtained by pushing

forward the cartridge tightly into the bore. This is a fault which is not in Lefauchaux, and in consequence of which fault it will sometimes happen that the piece will be thrown into such condition as that the cylinder cannot be revolved upon its axis, in consequence of this uncovered cartridge being sometimes thrown back from its position by the explosive force of the charge next to it acting between the guard or front-plate and the cylinder bores, and bearing upon the front end of the cartridge. There is also another difference between the White arm and the Lefauchaux, and that is in consequence of the cartridge being fired from without, instead of from within, making it necessary to have the case of the cartridge pierced so that the fire of the fulminate may pass through it. This opening renders the piece liable to accident by discharging more than one cartridge at a time, in consequence of a sheet of flame coming to the powder through it, when not intended, and from the charge next to it when exploded.

Int. 24. Please examine the several arms produced as those manufactured by the several defendants, and state whether you find the rotating cylinder A, of White and its mode of operation substantially contained in them, or either of them, and if yea, state whether in respect to what you may so find the defendant arms to contain, the White rotating cylinder A, and its mode of operation are like or unlike the Lefauchaux rotating barrels and co-operating parts, and give your reasons.

(Objected to, not for form.)

Ans. These arms are all like the rotating cylinder A, of White, as far as the boring through of the cylinder is concerned, with one exception. White's bores are conical; these are substantially cylindrical, I believe. They all differ from White's, in being so constructed that they cannot be charged without removing the cylinder from its place. They differ from White's, in being so constructed and used as that each charge carries its own fulminate so that the discharges may be repeated without the extra manipulations of removing an old cap and supplying a new one. In all these differences of the defendants' arms from White's, which I have mentioned, they agree with the Lefauchaux mode of operation. They differ from White's, also, in the

fact that the charge is fired from within the case of the cartridge, and in such a way as leaves the cases entirely solid throughout as to any opening, while White's has an aperture so that flame may pass in to the case from without; and in this respect all these arms of the defendants' differ slightly from Lefauchaux, although not essentially, as the Lefauchaux patent has an opening in the case through which a metal pin passes for the purpose of igniting the fulminate by communicating the blow to it given by the cock or hammer. All these arms differ from White's, in having the cartridges kept in their places in front by means of a flange on the case of the cartridge, and in rear by a full recoil-plate, and not depending at all upon the bite of the cartridge in the bore; and in this respect they differ slightly from Lefauchaux, as the Lefauchaux cartridge has no flange, but is kept from going forward by the pin which passes through the case, but Lefauchaux has the full recoil-plate the same as these, substantially.

The defendants' arms I have examined, are those of Allen & Wheelock, E. A. Prescott, and the Bacon Manufacturing Company — and all these arms have, in common with White's, each a rotating cylinder of chambers, bored quite through, in order that they may be loaded in the rear; they are all the same as White's, in the fact that they are intended to be fired successively from one particular position when brought there. They are all the same as White's, in having a recoil-plate to co-operate with the cylinder of chambers, instead of solid chambers, although White's recoil-plate is not full, — these are the essential co-operating parts; and in all these respects, the defendants' arms and White's arm are substantially the same as Lefauchaux.

Int. 25. Please examine the defendant arms just referred to, and say if there appears to be upon either of them, any breech-piece in the rear of the chamber in line of discharge, advanced beyond the vertical plane of the face of the recoil-plate.

Ans. In all of them, there is such projection.

Int. 26. What is the purpose and function of the breech-piece shewn in the White pistol, as described and represented in the patent? — first, in reference only to the chamber which is in line to be discharged.

Ans. It is to serve, for the time, in place of a breech-pin, technically so called,—that is, to sustain the rear pressure of the discharge.

Int. 27. Please examine the White specification and drawings, and say what the device is, for directing the fire from the cap to that chamber which is in line of discharge.

Ans. The device is a hole, as it appears by the drawing, passing downward from the nipple, and horizontally through the breech-piece.

Int. 28. Without the breech-piece, would the fire be safely conducted to the rear of the chamber?

Ans. As his pistol is constructed, it would not.

Int. 29. As his pistol is constructed is the breech piece, fitting with tolerable closeness to the rear of the chamber in line of discharge, essential to the firing of the arm with any degree of safety?

Ans. With tolerable closeness, yes. I don't know how close—that would depend upon the cartridge used.

Int. 30. Is it essential that White's breech piece should fit closely against the rear of the chamber, or against the butt of the cartridge inserted in it, in order that the fire may not be communicated laterally, so as to make danger of exploding the other charges?

Ans. Yes, I think so.

Int. 31. If you were to take a Colt pistol cylinder and saw it through in a plane perpendicular to its axis, and coincident with the plane in which the bore of the chambers terminate at the rear, and then confine the two pieces together, after loading the chambers at the rear, so that both will rotate together, will the pistol so produced be like or unlike that of White so far as regards what he describes as the first part of his invention?

Ans. It would be like it.

Int. 32. If you were to take an old fashioned Allen revolver with the barrels held in place with one screw as usual, and saw it through as before directed for the Colt cylinder, and confine the two pieces together so that they shall rotate together, would the pistol so produced be like or unlike the Lefauchaux revolving pistol?

Ans. It would be like the Lefauchaux, but wouldn't quite come up to it, because the Lefauchaux has the bores largest in the rear, or con-

cal slightly, so as to slug the ball in its passage out, while the Allen bores are all the way of a bigness, or cylindrical, and could not slug the ball in its passage out; and besides the Allen pistol as usually loaded, when cut and used as described, would depend upon the tightness of the joint to prevent escape of flame, which is not the case in Lefauchaux as he described and used it, where the cases of the cartridge would pack the joint and render it tight, if the joint were somewhat imperfectly made.

Int. 33. Please state whether you find in the defendant pistols before referred to, or either of them, any equivalent, and if any, what, for the tapering of the bores of the chamber as shown in the White patent,—stating first the substantial operation of this construction of the chambers.

Ans. Mr. White in his patent, speaking of the rotating chambered cylinder A, speaks of the “chambers bored right through it and made slightly conical with the smallest part in front in order that a cartridge may be inserted easily at the breech but that the ball may fit tight when it arrives in its place and not go through,” etc. Now it will be observed that here are two conditions and two requirements; the first is that the ball shall fit tight, and that is for the purpose of the bite I have referred to heretofore, to prevent the cartridge from coming out backward the same way that it went in, and which is necessary from the construction of the piece, in order that the cartridge which is opposite the opening in the recoil plate through which the cartridges are to be inserted by the fingers in some cases, should not be displaced. The other condition that it may not go through, is necessary to all the bores of the cylinder, because as the arm is constructed and described in the patent it is the only method of keeping the cartridges in their places in the direction of the front end of the chambers. Now I do not find anything equivalent to this in the defendants’ pistols, because that, having full recoil plates, it is immaterial whether the cartridges have any bite in the bores or not — they will be kept in their places by the recoil plate in the direction of the rear of the arm whether the cartridges are tight or loose in the bores. In the direction of the front of the chambers in the defendants’ pistols the cartridges are kept in position by a

flange upon the cartridge, and this may be fairly said to be an equivalent for the tapering bore as far as *that* is concerned; but the flange and recoil plate both together are not equivalent to the tapering bore in White's, because that in order to use them as the defendants' arm is constructed, the cylinder cannot be loaded in the rear without taking it from its place in the arm, and White's can.

Int. 34. Please compare the Lefauchaux arm, as used with the metallic cartridge casing shown in his patent, with the defendants' arms, as used with the flanged cartridge, and state whether, in so far as the defendants' arms, so used, embody an equivalent for the White conical chamber bores, they are like or unlike the Lefauchaux arm. Please state fully.

[*Objected to, not for form.*]

Ans. The defendants' arms are substantially the same as the Lefauchaux, in so far as they are equivalent to the conical bore of White's, because if they are an equivalent for White's conical bore, it is in consequence of the fact that the conical bore of White, prevents the cartridge from being thrown forward in any way, and that the flange does the same thing, substantially, the mechanical means being different in White's and in defendants'. Now in the Lefauchaux, the pin in the cartridge prevents the cartridge from being displaced or thrown forward, the same as the flanges used in the defendants' pistols, and is substantially the same in its mode of operation, for that purpose. Moreover, it is the same mechanical means for that purpose as the flange, substantially, because it is immaterial whether the cartridge fills the bore, or is loose in the bore in both cases, that is in the defendants' arms, and in the Lefauchaux arm.

Adjourned to Thursday next, at 10 A. M.

Examination Resumed, April 30, 1863.

Int. 35. Did you witness certain experiments at Worcester, on the afternoon of the 27th inst., with the pistol marked "Renwick?"

Ans. I did.

Int. 36. Without going into details, please state generally the char-

acter of these experiments, the degree of care and thoroughness with which the experiments were conducted, and the results.

Ans. Those experiments were somewhat elaborate and were entirely methodic; the manipulations being performed by skillful operators in the manufacture and testing of fire-arms, and were done under the direction and inspection of Mr. Renwick and myself, to see that the cartridges were fairly prepared and used and the experiments properly made both in loading and firing. They were made with different kinds of cartridges mainly, but one set of experiments were made without the cartridges being made up at all; loading with naked ball in front, powder behind, closing the opening at the breech with a leather packing made to fill the bore properly, and having through it in the centre a hole through which fire could be communicated from the percussion-cap to the powder between it and the ball. We were some three hours making the experiments, and for that length of time with a good deal of diligence.

Int. 37. Please state the general results of those experiments,—what difficulties, if any, were observed in the operation of the arm; what peculiarities of operation, going to the advantage or disadvantage of its practical use as a fire-arm.

Ans. The general results of all the experiments, taken as a whole, were bad, going to prove clearly to my mind, that the arm had no practical utility. One difficulty which nearly always occurred, I will mention:—the starting back of the cartridges from their places at those two points upon the side of the arm where there is no recoil-plate over the open bores, and which will be readily observed upon inspection. This happened to a greater or less extent, at every discharge of the piece, in those experiments, with the exception of three, I believe, sometimes on one side, and sometimes on the other, and quite often upon both sides at the same time, thereby leaving the arm in such a condition as to prevent the revolution of the cylinder; and in one instance, where the passage in the long barrel had become obstructed, the whole cartridge, at one of those points, was thrown out backward, with a good deal of violence. This difficulty took place, as it appeared to me, by the explosive force of the cartridge escaping between the cylinder and the long barrel, and making pressure between the shield-plate, or guard-plate, and the

cylinder, acting upon the balls through the bores in front, forcing them back, and the cases of the cartridges with them, at those points where the openings in the recoil-plate permitted them to come out backward. There were, also, in the course of these experiments, several instances where more than one cartridge was exploded, but not a great many such instances, — too many, however, to allow of any safe practical use of the arm. There were some instances when the cartridges were thrown back so as to be struck by the explosive force or sheet of flame at these openings in the recoil-plate, and they were struck, and the leather heads, or ends, in the cases, were knocked out in some way so as to leave the powder bare, — portions of it thrown quite back upon the recoil-plate, and still the powder was not ignited. I was then, and am now, a little at a loss as to how that could happen; but it did happen, and although no harm came of it, going to endanger any one in the immediate vicinity, the arm thereby was rendered entirely useless for another discharge.

Int. 38. After witnessing these experiments, will you now state your opinion of the arm described, and represented in the White patent, as to its being practically useful, or practically useless, and as to its being a safe or an unsafe arm in ordinary use?

[*Objected to.*]

Ans. I think it is practically useless as a repeating arm, and entirely unsafe in ordinary use.

And in reply to Cross-Interrogatories proposed to him by E. F. Hodges, Esq., Counsel for complainants, deponent saith as follows, to wit:

Cross-Int. 1. What do you call the chamber containing the charges in the Lefauchaux arm?

Ans. I think I would call it a chamber.

Cross-Int. 2. You would not call it the barrel, then?

Ans. Perhaps I would in some cases; the chamber is certainly in the barrel and of the barrel; so is the chamber of any fowling gun ordinarily. Sometimes the breech-pin is bored down so as to admit the powder passing into it.

Cross-Int. 3. In the Lefauchaux arm is there any other barrel than the article that you call the chamber?

Ans. In the revolving arms—(*witness is requested to answer the question by counsel for complainants,*)—specially described by Lefauchaux, there is no long or supplementary barrel other than those in which the charges are inserted. The arm mentioned in his first patent is not a revolving arm, but the same is true in regard to it.

Cross-Int. 4. What do you mean by the expression “supplementary barrel,” used in your deposition heretofore?

Ans. The long single barrel through which all the charges are made to pass from several short barrels or chambers.

Cross-Int. 5. In the Colt pistol you would designate the chambers in the cylinder containing the charges as short barrels, would you?

Ans. I think it's quite likely I should sometimes. I don't know as this would be quite proper, however; my habits of thought and speech upon this kind of fire-arm have been somewhat modified perhaps by early associations. The first arms which I have ever seen using a long barrel in common with several short ones, were made up different from what they are now-a-days. The short barrels *were* barrels, and packed together and made fast together, in contra distinction to the present mode of making, which is to bore the whole of them out of a solid piece of metal, but I don't know that this makes any difference, in fact, as to the article when made.

Cross-Int. 6. In the Colt arm then, and in arms like it, you would call the parts containing the charge, a barrel; and the long part through which the charge is discharged, a supplementary barrel.

Ans. I have called them so a good many times, I know, but I have doubts whether it is strictly proper. It don't make any difference with the operation of the piece whatever you call it.

Cross-Int. 7. Will you explain how the metallic case of the cartridge packs the joint at the time of discharge, as mentioned in your answer to the 10th direct interrogatory?

Ans. The case of a metallic cartridge, as usually constructed and used, is made of thin sheet metal and is constructed from a disk of such metal, cupped up upon the sides for a greater or less proportion of the length of the cartridge, and is placed in the bore of the gun after being filled, so that the sides of the cup come in contact, or nearly in contact,

with the cylindrical sides of the bore, while the base of the cup rests against the breech-piece, whatever it is, all in such manner as that the thin plate of metal shall pass entirely around and over any opening that there may be at the extreme end of the cylinder or bore in which the cartridge is placed. Now this sheet metal being of no great strength or hardness, and considerably ductile, will, by the force of the explosion of the charge, be brought tightly to the bore of the piece so that there can be no escape between it and the inner surface of the barrel or chamber, and being substantially supported by its surroundings it will, by this explosive force, be made to pack across and over any joint or opening, not too large for its strength, and will thus, if perfect and no breech in it, make the joint tight.

Cross-Int. 8. Do you attribute the packing of the joint to any expansion of the metal?

Ans. I do.

Cross-Int. 9. In your answer to the seventh cross interrogatory, do you refer to the metallic cartridges with a flange at the base, like those used in the Defendant's arm and in Smith & Wesson's arm; or to cartridges without this flange, or to both?

Ans. In that answer I referred only to cartridges without the flange, because the question referred back to my answer to the 10th direct, and that answer to the 10th direct refers to such cartridges as could be used in the arm as described by White in his patent, where a flange cartridge could not be used, as I understand it; but the action of a flange cartridge having a metallic case will be the same as to packing as one without the flange, or nearly the same, varying somewhat in degree and being capable perhaps of packing a larger joint safely, or a more open joint, with the flange than without it.

Cross-Int. 10. Do you find any directions in the White patent for making the cartridges to be used in his arm?

Ans. I believe not.

Cross-Int. 11. In the experiments you have mentioned, do you remember any instance in which the ball of the cartridge remained in the stationary barrel at and after the discharge?

Ans. I do not, but there was one instance when the ball stopped

between the stationary barrel and the rotating chambers and did not pass out, and that was the instance which I mentioned when the ball and cartridge from a neighboring chamber were thrown violently back by the pressure between the shield-plate and the chamber, the ball passing sufficiently out of the chamber to allow the explosive force of the charge to expand itself between the shield-plate and the chamber, and to re-act or act rearward on the ball.

Cross-Int. 12. Did this ball project into the stationary barrel, or where was it after the discharge?

Ans. Some portion of it was projected into the stationary barrel and some portion of it remained in the chamber. It was across a joint between the two.

HERVEY WATERS.

Subscribed and sworn to, April 30th, 1863, before me,

N. AUSTIN PARKS, *Examiner.*

DEPOSITION OF SEYMOUR C. BROWN.

Seymour C. Brown, a witness produced by the respondents, being duly sworn, doth depose and say in answer to interrogatories proposed to him by Causten Browne, Esq., counsel for respondents:

Int. 1. What name, age, residence and occupation?

Ans. Seymour C. Brown; 34 years; residence, Yonkers, New York State; am a machinist.

Int. 2. Were you ever employed in Colt's pistol factory, at Hartford, Conn.; and if so, from what time to what time?

Ans. Yes, sir, in 1847, and left there in 1859.

Int. 3. Were you afterwards employed in the pistol factory of the Manhattan Arms Co. at Newark, New Jersey, and if so, from what time to what time?

Ans. I went there in the fall of 1859, and left there in April, 1862.

Int. 4. While you were at Colt's did you know Rollin White, one of the Plaintiffs in this suit?

Ans. Yes, sir.

Int. 5. How well did you know him, how often did you see him and talk with him?

Ans. I knew him as a shopmate, and it was a daily occurrence to see him in the shop then, and was in the habit of talking with him.

Int. 6. Do you remember while at Colt's having drilled the central hole of a pistol cylinder at Mr. White's request?

Ans. Yes, sir, I do.

Int. 7. Was that cylinder one of Colt's cylinders?

Ans. It was part of his steel.

Int. 8. In what year was that?

Ans. There were a number of times I did little jobs. The first one was in the year 1849. This one I have a recollection of, was bored in 1849.

Int. 9. Do you recollect boring such a one for him in the year 1853?

Ans. I do not recollect about boring one for him then, but I recollect lending him an to turn one on.

Int. 10. Do you recollect in the year 1853 drilling the central hole of a pistol cylinder for Mr. White, and at or soon after that time lending him your drills, rimmers, etc., to drill the chamber holes?

[Objected to, the witness having already testified that he does not recollect having bored one in 1853.]

Ans. I recollect in 1853 lending him drills and for chamber holes. The central hole I don't recollect of drilling in 1853.

Int. 11. After borrowing the drills and for the chamber holes, did Mr. White return you the tools and show you the cylinder with the holes drilled clear through from front to rear.

Ans. He did return the tools. The chamber holes were drilled clear through, from end to end, of the cylinder.

Int. 12. In what month of the year 1853 was this?

Ans. I should think it was in the month of May.

Int. 13. Was it not in the month of June?

[*Objected to as leading.*]

Ans. It may have been.

Int. 14. What reason is there, if any, for your believing that it was earlier than the month of July?

Ans. Because I have done several jobs for him at different times.

Int. 15. But how do you know, if you do know, that this particular job was in April or May of 1853, and not in some later month of that year?

[*Objected to, as leading.*]

Ans. It was a daily occurrence for men in the shop to accommodate one another.

Int. 16. It being a daily occurrence for you to accommodate one another, how are you able to state the month or about the month of the year 1853 when this particular act of accommodation was performed? What fixed, or tended to fix, in your mind, if anything, the time of Mr. White's showing you the cylinder with the chambers so drilled through from front to rear by the aid of your tools?

Ans. In that year, 1853, there was quite a change in my work at that time, and the cylinder being different from what I ever saw, impressed my mind so that I can recollect.

Int. 17. In what respect was it different from any you had ever seen?

Ans. In the chambers being drilled clear through.

Int. 18. Do you remember being called upon at Newark by Mr. Rollin White, in the month of October, 1861?

Ans. I recollect him calling, but whether it was in October or not, I could not tell. It was in the year 1861.

Int. 19. Did you and he converse together upon the subject of his early experiments upon cylinder pistols?

Ans. We did at that time.

Int. 20. Did Mr. White mention the date at which he would contend that he first made such a chambered cylinder as you have described?

Ans. He mentioned no date.

Int. 21. Did you mention any date to him?

[*Counsel for complainant objects to the question, insisting that the witness should be asked in this, his direct examination, what was said.*]

Ans. I believe I did.

Int. 22. Did you and Mr. White have any conversation in regard to any pecuniary advantage to yourself, from a decision in his favor in the suit in his patent then pending?

Ans. We did not.

Int. 23. Did you have any such conversation with him at any other time before or after that particular interview?

Ans. Not on account of this suit.

Int. 24. If not on account of this suit, what other suit?

Ans. No other suit.

Int. 25. You say you remember about the time of Mr. White's showing you the cylinder with the chambers drilled clear through, in the year 1853, because, among other reasons, it was the first cylinder of that kind that you had ever seen, and you say that you had done jobs for Mr. White at various times before that, the first one as early as 1849; please describe as much as you can of that first job in 1849.

Ans. It was a piece of cylinder steel with a centre hole drilled through, cut off, right off, from a bar. That was all I did on that job.

Int. 26. What was the next job you recollect doing, or having anything to do with, for Mr. White?

Ans. The first after that that I recollect of now, was in 1850.

Int. 27. Describe what you recollect of that job.

Ans. He wanted then two or three little pieces of cylinder steel; I gave it to him.

Int. 28. While at Colt's factory, did you know Mason White?

Ans. Yes, sir, I did.

Int. 29. Did you know Thomas K. Work?

Ans. I did.

Int. 30. Did you know Carlisle A. Fisk?

Ans. I do not recollect him now.

Int. 31. I mean a man then about 40 years old — said to have been at Colt's shop in 1849 and 1850.

Ans. I do not recollect him.

Int. 32. Did you see any pistol or pistol-model with a revolving cylinder exhibited by Mr. White, as containing any improvement of his, while you and he were at Colt's shop together?

Ans. I did not in the shop, — I saw one in the year 1855.

Int. 33. Was that the first one?

Ans. That was the first one I saw.

Int. 34. Was that a model of something which Mr. White claimed to have invented?

Ans. He had two of them at that time, and he claimed improvements on both.

Int. 35. With the exceptions of those two pistols, or models, and the three jobs you have spoken of in 1849, 1850, and 1853, did you have any knowledge, or any experiments, or models, pistols, or parts of pistols, made by or for Mr. White, while you and he were both at Colt's, and between the years 1848 and 1855?

Ans. I recollect now of doing little jobs, but don't recollect what they were.

Int. 36. Did they relate to cylinder pistols?

Ans. I think not.

Int. 37. Were you in the habit of seeing Mr. Rollin White out of working hours?

Ans. Not often.

Int. 38. Did you live in the same house with him?

Ans. I did not.

Cross-Examined.

Cross-Int. 1. During the time that Rollin White worked for Colt, do you know on what kind of work he was engaged?

Ans. Barrel work and lock work.

Cross-Int. 2. He was not engaged on the work relating to the chambered cylinders, was he?

Ans. No, he was not.

Cross-Int. 3. The drilling of the chambers in the cylinder was done on a special kind of lathe, was it not?

Ans. It was, on lathes made for that purpose.

Cross-Int. 4. You say that some time in 1853 you loaned White some drilling and reaming tools for the chambers and cylinders, and that afterwards White showed you a cylinder with the chambers bored clear through from front to rear. Did you see him drill the chambers of that cylinder?

Ans. I did not.

Cross-Int. 5. Did you examine the chambers of that cylinder to see if they were cylindrical or larger at one end than at the other?

Ans. I did not.

Cross-Int. 6. Did you have charge of one of, or work on one of the lathes for boring the chambers of the cylinder when, as you state, Rollin White showed you the cylinder with the chambers bored clear through?

Ans. At the time he showed me the cylinder I was at work at the turning lathe, but previous to that I had been at work on the lathe for boring the chambers.

Cross-Int. 7. The reamers which you loaned him, were they not instruments with which holes already bored could be enlarged?

Ans. Yes, sir.

Cross-Int. 8. Did you not have an interview or interviews with Rollin White in Hartford in the year 1857 or 1858?

Ans. I think I did.

Cross-Int. 9. Did you not at that time write down in a memorandum book of Rollin White a statement of your then recollection of the time when you first saw Rollin White engaged in working on a cylinder with the chambers bored entirely through from the front to the rear end?

[*Objected to.*]

Ans. I did.

Cross-Int. 10. If you should see that statement, would that enable you to testify when you first saw such a cylinder in the possession of Rollin White?

[*Objected to.*]

Ans. I think it would.

Adjourned to the 14th, at 10 A. M.

March 14th, 1863. Present, Counsel for respective parties. Examination of Seymour C. Brown continued.

Cross-Int. 11. When, to the best of your recollection, did Rollin White stop working on the turning of barrels at Colt's establishment?

Ans. I do not recollect at the present time.

Cross-Int. 12. Look at the book now handed to you, at the writing on both sides of the second leaf, under letter B, and state, if you know, whose writing it is, and by whom, and when and under what circumstances written.

Ans. It is my writing. It was on the evening of April 5th, 1859. Mr. White visited me in my room and asked me [*counsel for defendants objects to evidence of conversations between Mr. White and the witness*] if I recollected doing a certain job for him. I told him I did. It was concerning this work.

Cross-Int. 13. Was that statement, so written by you, true at the time, to the best of your recollection?

Ans. It was.

By agreement of counsel the following transcript is made of the writing in the book referred to, which transcript is to be used as original evidence, instead of the entry:

"Hartford, April 5, '59. I Seymour C. Brown, No. 9 Sheldon street, while I was to work in Col. Samuel Colt's shop, in this city, Mr. R. White came to me to borrow an arbor to turn a cylinder and cut it off. I asked him what kind of an arbor and he described the size, and he wished to know if I would risk it. I told him if he would take an old arbor, that was not very true, I would risk it. Mr. White said that would do just as well as any, and he went to work on the lathe and did his work or job, and has borrowed arbors several times to my recollection for the same purpose. It was in the lower room, and I remember of asking him what that piece of work was for, I examined it very closely, for it was some kind of work that I was doing, or made in form from my tools that I was to work with—a cylinder cut off with the chamber drilled in it, the cone end was cut off. I can recall all this to

my memory very well, by some one passing asked what Mr. White was doing there to work. I think it was some person on the cylinder job.

SEYMOUR C. BROWN."

Cross-Int. 14. Was it while you were to work in the lower room, and before removing to the upper room at Colt's, that White borrowed the arbor, as stated in that written statement?

Ans. It was in the lower room.

Cross-Int. 15. Was it while Rollin White worked on the job of turning barrels?

Ans. It is my impression that he was rifling at that time.

Re-Direct.

R. D. Int. 1. You say in your written statement, that Mr. White borrowed arbors of you several times, to your recollection, for the same purpose. Were these times before or after the particular time mentioned in your statement?

Ans. I can't say whether it was before or after, but I recollect of lending him arbors at various times.

R. D. Int. 2. When did you move from the corner room to the upper room, at Colts?

Ans. I think it was the year 1851.

R. D. Int. 3. What work were you engaged on at that time?

Ans. Turning.

R. D. Int. 4. When did you cease to work on the lathe for boring the chambers?

Ans. The early part of 1850, I believe.

R. D. Int. 5. Were the drills and reamers, which you say you lent Mr. White, in 1853, adapted to drilling through the entire chambers, from a cylinder block, as well as to enlarging a chamber already drilled?

Ans. They could be used for that purpose.

R. D. Int. 6. When Mr. White returned to you your drills and reamers, and showed you the cylinder, with the chambers drilled through

and through, did he say anything in regard to the work he had been doing?

Ans. He did not at that time.

R. D. Int. 7. Did he afterwards?

Ans. He did a few days afterwards.

R. D. Int. 8. Did he say what he had done with the drills and reamers, and what was it?

Ans. I don't recollect now.

R. D. Int. 9. Did he say what he had done, a few days before about the cylinder which he had showed you?

[*Objected to.*]

Ans. He did not.

R. D. Int. 10. You say in your answer to the 7th re-direct, that Mr. White did, a few days after returning you the drills and reamers, and showing you the cylinder, say something in regard to the work he had been doing. Was it in regard to work he had been recently doing, or not?

Ans. It was not.

S. C. BROWN.

Sworn to before me, on the day above written.

KENNETH G. WHITE, *U. S. Commissioner.*

DEPOSITION OF CHARLES FOLSOM.

Charles Folsom, a witness recalled on part of the respondents, doth depose and say in answer to interrogatories proposed to him by Causten Browne, Esq., counsel for respondents:

Int. 1. Have you prepared and will you present, to be made an exhibit in this case, a translation of the specification and the addition thereto of the patent of Lefauchaux, dated 28th January, 1833?

Ans. I have; I present it, marked "First Lefauchaux, N. A. P., Ex'r."

Int. 2. I observe that you translate the word "*briser*" by "break

the continuity of the barrel," and the word "*brisure*" by "breaking." Please give us, if you can, a reference to some work of authority by which your selection of these English renderings may be indicated.

Ans. I give you the following extracts from *Bescherelle Dict. Universelle de la langue Française*, published serially from 1843 to 1846, under the titles *briser* and *brisure* respectively.

"BRISER *v. a.* 1re conj. * * * * * *Romp*re, *casser*, *se mettre en pièces*. *Briser une porte, une meuble, une glace, un miroir*, * * * * * *Se briser v. pron.* *Se casser, être mis en pièces*.

"*Techn.* *Se dit de divers ouvrages dont les pièces jointes ensembles, peuvent se plier, s' allonger et se raccourcir. Des portes, des fenêtres, des tables qui se brisent. Ce bois de lit, ces fauteuils, ces vantaux se brisent.*"

"BRISURE * * * * * *Endroit des ouvrages de menuiserie ou de serrurerie où les parties se replient les unes sur les autres au moyen de charnières. La brisure d' un volet.*"

Int. 3. Please translate these extracts.

Ans. "BRISER," verb active, 1st conjugation * * * * * to break, to break to pieces, to take to pieces. To break open a door, to break a piece of furniture, a glass, a mirror. * * * * *

SE BRISER, pronominal verb; to break up, to be taken to pieces. In technology it is said of different articles in which the pieces joined together may be folded, lengthened and shortened; doors, windows, tables which fold, [*se brise.*] This bedstead, these arm-chairs, these window-shutters fold, [*se brise.*]"

"BRISURE; the plan in articles of carpentry and lock-smithery where the parts fold one over the other by means of hinges—the break of a shutter."

CHARLES FOLSOM.

Subscribed and sworn to this 14th day of May, 1863, before me,

N. A. PARKS, *Examiner.*

PATENT FOR TEN YEARS, DATED THE 28th OF JANUARY, 1833.

TO THE SIEUR LEFAUCHEUX (CASIMIR), AT PARIS.

MECHANISM

For a new contrivance for confining the barrel in the muskets with a reciprocating movement, called *Pauly* muskets.

This mechanism, of which I have become sensible of the superiority over those for which I took out a patent four months ago, is the one to which I have given particular attention, and which I have been making for near four months for my muskets, with a reciprocating movement [*fusils à bascule*], because it gives a much greater solidity in fixing the musket in its natural position.

It consists of an iron hook, *a*, which is fitted to the end of the barrel on the side opposite the touch-hole, and in which we introduce a piece, *b*, which we can cause to turn upon itself by means of a sort of a key with a handle to it, *c*.

Plate 27. Fig. 1 shows the mechanism hooked, that is to say, placed as it ought to be when the musket is put in order for use. We see that, in this position, the piece *b* fills up all the space contrived in the hook *a*, and that the key is found immediately under the barrel.

Fig. 2 shows the barrel turned up on its hinge; in order to give it this inclination, we have, by means of the key *c*, caused the piece *b* to make a quarter of a revolution, which has disengaged it from the hook.

Figs. 3 and 4, show the details of this piece *b*, and fig. 5, represents the screw *d*, which serves to fasten the key under this piece.

Instead of mounting this key with a handle, as it appears in the drawing, we can fit on the handle with a screw, so as to take it off at will, which will avoid cutting away the wood under the barrel.

We may also dispense with the handle entirely, and make the key in a single piece with the guard *e*, which permits us to shorten it by at least one half. In this case, I arrange the guard so as to be able to turn it around the centre *d*, instead of fixing it unalterably under the butt of the musket.

I might substitute for the piece *b* a screw with several threads, so arranged that, on turning it in its nut (which would then be substituted for the hook), a quarter of a revolution, this quantity would be sufficient to fasten the musquet in its natural position, or to allow it to be moved up and down at will.

29 October, 1834.

PATENT FOR ADDITION AND IMPROVEMENT.

The advantage derived from breech-loading muskets has made me labor much to perfect the different means employed to obtain this effect; up to the present time, all these have had it for their principle to break the the continuity of the barrel of the musquet, in order to be able to introduce the cartridge into it.

The new improvement for which I now ask a patent of addition is intended to avoid this breaking, in order not to change the natural direction of the musket.

It consists in making the butt to slide backward in the line of the barrel prolonged, when we are going to load, in order to remove it far enough off for the purpose, and afterwards to bring it up close again.

Plate 27. To attain this object, I make at the end of the barrel a strong shoulder *a*, which bears against a similar shoulder *b*, on the butt of the musket; moreover, the barrel is prolonged in *a* for a certain distance to enter a corresponding hollow *a*¹, made in the inside of the butt. Thus, when this last is brought up again close to the end of the barrel, we see on the outside nothing of this adjustment, as is evident from fig. 1 of the drawing.

The shoulder *a* is perforated, under the barrel, with an elliptical opening *b*, fig. 4, which is traversed by a long rod or stem *c*, forming one body with the butt. On the construction of this stem depends the solid connection of the two parts of the musket. We see by the plan, fig. 6, that it has a part *c* *d*, flat and rounded so as to coincide exactly with the opening *b*, when it has to pass through this opening, — an arrangement which keeps the butt true in the rectilinear movement we give it when we wish to load the musket.

Between the point *c* and shoulder *a* of the barrel is a cylindrical collar *e*, represented in fig. 6, and to this the flat part *c d*, of the stem, is made to fit by a sort of inclined surface. This cylindrical collar is intended to receive a key *d*, the opening in which presents a form altogether peculiar; not only has it on the inside the same shape as the opening *b* (see the detail, fig. 7), but, also, at the entrance *a*, on the side opposite to the shoulder against which it bears, it is cut out into an inclined surface, so as to facilitate its passage by the collar *e*, over the part *e d*, and moreover to force the key to apply itself against the shoulder, without its being necessary to make a great effort with the key for that purpose. By this arrangement the two shoulders are kept firmly pressed against each other when the key is made to take the position which it occupies in fig. 1 [1'.] When they are thus united, the commencement of the stem, that is to say, the projecting part *c*, is completely engaged in the inner part of the shoulder *d*; the stem is prolonged beyond the flat portion *c d*, to pass through a guide *e*, fixed under the barrel, and serving to keep the stem and, consequently, the butt of the musket, constantly in the same direction.

It is easy now to see that, if we wish to use the musket, it will be sufficient, when we are going to load it, to cause the key *d* to make a quarter of a revolution in order to bring it into the horizontal position shown in fig. 2 [2']. The opening *f*, fig. 7, which is made in it, corresponds well with the prolongation of the flat part *c d*; thus we can easily draw back the butt to uncover the end of the barrel. As the stem makes one body with the butt, it is naturally drawn along with this latter, and takes the position given to it in fig. 2 [2']; hence it results that the flat part *c d* traverses the opening *b*, in which it is held firm; the key, held by the shoulder of the barrel, slides over this part, keeping its horizontal position.

When the butt is drawn away from the end of the barrel far enough to permit the introduction of the cartridge into it, after this has been placed in the part *a*, figs. 3, 4, we push the butt so as to bring together again the two shoulders, and, as soon as this operation is ended, we bring back the key to its first position, and we give it a quarter of a turn round to make it vertical, in order to squeeze the two shoulders very strongly together.

Explanation of the Figures.

Fig. 1 [1¹] represents the whole of the musket and of the mechanism by which is effected the separation that allows the cartridge to be introduced into the breech. We see, in this figure, the two shoulders *a* and *b*, which belong, one to the butt and the other to the barrel, brought well together, pressed by the key *d*.

Fig. 2 [2¹] shows the musket at the moment when the butt is separated from the barrel; the movable stem *c* has advanced with it, leaving the key *d* bearing against the shoulder *a*.

Fig. 3 [3¹] represents the plan, seen from below, of two barrels coupled together for fowling pieces; it shows the shoulder *a*, and the fixed guide *e*, placed at a certain distance.

Fig. 4 [4¹] gives an end view, showing the elliptical opening and flat part *b*, which is traversed by the stem *c*.

Fig. 5 is an end view of the butt, showing the cavities *a*¹, in which are lodged the ends of the barrels. By this figure we perceive that the flat and rounded part of the stem, *c d*, and the part *c*¹, are exactly of the same shape as the opening *b*, made in the shoulder of the barrel.

Fig. 6 represents the plan, seen from above, of the stem *c* and the shoulder *b*, which belong to the breech.

Fig. 7 is a detail of the key *d*, by which is effected the bringing together of the shoulders in order to keep them together in a fixed and invariable manner.

The movement of pressure effected by the key, such as has been described, can be equally obtained by means either of a screw with four threads, or of a screw cut parallel to its axis, the key performing then the office of the rod of a pendulum.

A G R E E M E N T .

UNITED STATES CIRCUIT COURT, }
 Massachusetts District, }

WHITE ET AL. vs. ALLEN ET ALS.

In Equity.

It is agreed that the patents of Coolidge and Leroy, and the description of the arm of Philip Mathien, mentioned by Mr. Hibbard, a witness for the defendants, may be referred to by either side, without printing. Also, that the "Colt revolvers," so called, were known publicly in France, before the date of the Lefauchaux patent of 1845.

BROWNE & MAYNADIER,
Solicitors for Defendants.

E. F. HODGES, *for Plaintiffs.*

COMPLAINANTS' REBUTTING PROOFS.

MONDAY, June 9th, 1862.

DEPOSITION OF ROLLIN WHITE.

Counsel on both sides present.

Rollin White, called and sworn on the the part of the complainants, deposes and says :

Int. 1. What is your name, age, residence and occupation ?

Ans. Rollin White; 45 years of age; reside at Davenport, Iowa; and since 1857 have sold dry-goods, and part of the time in inventing.

Int. 2. Are you one of the plaintiffs in this suit, and the patentee of the invention which is the subject matter of this suit ?

Ans. Yes, sir.

Int. 3. Did you ever learn the gun-making business; and if so, when and where ?

Ans. I have, in Williamstown, Vermont. I worked with my brother, J. D. White. It was from about 1837 to 1840, as near as I can recollect.

Int. 4. What was your first knowledge of a pistol loading at the breech ?

Ans. It was a flint-lock pistol, which my father had. The barrel unscrewed at the breech. The charge was placed in the breech, and the barrel screwed on to it. It was when I was about ten years old.

Int. 5. When first did you contrive a repeating pistol ?

Ans. The first that I conceived of a repeating fire-arm was in 1837.

Int. 6. Have you made a model of what you then conceived; and if yea, will you produce it, and make it an exhibit in this case ?

Ans. I have, and produce it, and it is marked Exhibit C.

Int. 7. How did you contemplate having the bore of the chambers on the plan you then conceived? Specify particularly.

Ans. Contemplated extending the chambers through the breech.

Int. 8. For what purpose?

Ans. For the purpose of loading in the rear of the chamber.

Int. 9. How did you contemplate enclosing the charge at the rear end, when so inserted?

Ans. By putting in a plug, or leather packing.

Int. 10. What, if anything, was to resist the discharge at the rear end of the chamber, when fired?

Ans. The chamber that was in line with the barrel would rest against the pinion that revolved it, and thereby form a breech.

Int. 11. Point out the pinion to which you refer, so that the Commissioner may mark it letter D.

Ans. I have, and the Examiner so marks it.

Int. 12. Did you contemplate communicating the fire for the discharge on said plan?

Ans. With nipples inserted into the chamber in front of the packing, as shown in model Exhibit C.

Int. 13. Did you ever construct an arm or model on that plan, before you made Exhibit C for this trial?

Ans. I did not.

Int. 14. When first and where did you see what is generally known as a pepper-box pistol, consisting of a series of barrels rotating on an axis, that each of the barrels may in turn be brought in line with the barrel of the lock to be fired?

Ans. About 1839, in my brother's (J. D. White's) shop, in Williams-town, Vermont.

Int. 15. Did you at that time suggest and describe to any one, and if so, to whom, a modification of that pistol; and if so, what was that modification?

Ans. I suggested to my brother, J. D. White, to cut off the barrel in front of the breech, for the purpose of loading it in the rear end of the barrel.

Int. 16. When did you make such suggestion?

Ans. About 1839.

Int. 17. Did you describe to any one, and if so, who, the plan of Exhibit C, at the time you conceived such plan?

Ans. I did, to Daniel Townsend, at Barre, Vermont, in Joshua Devling's shop.

Int. 18. Has your mind been much directed to inventions, and obtaining patents; and if so, when did you first obtain a patent for any invention of your own?

Ans. It has. In 1840, I think, I made application for a patent for a loom for weaving bolting-cloths. The patent was granted in 1841, as near as I can recollect.

Int. 19. Did you ever work on the manufacture of repeating fire-arms for Samuel Colt; and if so, from what time to what time?

Ans. I have. I first commenced work there in February, 1849, and left in April, the same year.

Int. 20. Is that the only time you worked on pistols for Colt?

Ans. No, sir.

Int. 21. I want you to state all the time you worked on pistols for Colt, and under what circumstances you worked?

Ans. I returned there again, and commenced work about the 1st of August, 1849. When I first went there, the two first months I was there, I had the job of turning barrels for my brothers, J. D. and Mason White. When I returned, I took a job from them of rifling and polishing the barrels. I worked on that job, I think, till April, 1852, when I took a job directly from Mr. Colt, to manufacture the limb or lock work — three pieces of it — and continued on that work until December, 1854, or about that time.

Int. 22. Why did you leave?

Ans. Because Mr. Colt concluded to take the jobs away from the contractors, and do it himself, or not give it out by piece-work as he did before.

Int. 23. When and how did you first experiment with a pistol with a rotating cylinder having the chambers bored entirely through?

Ans. It was when I was at work turning barrels at Colt's shop. I took two refuse Colt's cylinders and borrowed a cutting-off tool of Sey-

mour Brown, put them into a lathe that I used for turning barrels, and cut off the front of one, and the rear of the other, or cut them in two, so that the rear of the one and the front of the other would make a cylinder, when put together, about the usual length.

Int. 24. What was your object in so putting together the two parts?

Ans. So that I could load them at the rear, to facilitate the loading.

Int. 25. What did you do with those two parts when so put together?

Ans. I took them up to the house where I boarded, borrowed a Colt revolving pistol of Mr. Holden; I think D. Holden it was; took off the barrels, and the cylinder that was on the lock frame; took my ammunition that I had previously obtained; put the ball into the chamber, until it came in contact with the shoulder in the muzzle of the cylinder, then put in loose powder, put the breech and the cylinder together, and put them on to the lock-frame; then put on the barrel and fastened it. After it was charged in this way, I went over to Mr. Lincoln's shop; asked Mr. Steele if there was a good place where I could fire it in the shop. He showed me down into the basement under the main building, and said I could fire it there. There was open spaces in the floor, being loosely laid. I went to one of those open spaces, cocked the pistol, placed the breech in right position, so the hammer would strike the cap, and then turned up the pistol so that I could see the muzzle of the cylinder; placed the loaded chamber with my thumb and finger so as to come in line with the barrel as near as I could; I then pointed down to this open space and fired it.

Int. 26. In your last answer you state, that after putting the charge in the chamber of the cylinder, you put the breech behind it; what do you mean by the breech?

Ans. I mean the rear part of Colt's cylinder, that I had cut off for that purpose.

Int. 27. What was the object of putting that on before firing?

Ans. So that it would not blow out at the rear, and to ignite the charge.

Int. 28. You have stated that, in loading the chamber, you put in the ball until it came against the shoulder in the muzzle of the chamber;

were Colt's pistols at that time made with the chambers having a shoulder at the muzzle?

Ans. They were not.

Int. 29. How came it, then, that the chamber in this experiment had such a shoulder?

Ans. I had drilled it out at the rear of the chamber, a little larger than it was at the muzzle, for the purpose of holding the ball in its position when fired, as I suggested in the plan represented in "model C."

Int. 30. Was the chamber cylindrical before you bored it, or reamed it out to a larger diameter, as you have stated?

Ans. It was.

Int. 31. When you went to Lincoln's shop to fire that experimental pistol, did Lincoln or Steele examine or understand that pistol?

Ans. They did not examine it.

Int. 32. Did they both know of your going there to fire it?

Ans. I don't know that Mr. Lincoln knew if I fired it, after working hours. Mr. Steele knew it; I think he was near by me when I fired it.

Int. 33. Why did you go there to fire it?

Ans. Because it was the most convenient place to where I boarded, being nearly opposite the house. Mr. Steele boarded at the same place I did.

Int. 34. Did you intend to fire it publicly or secretly, in that experiment?

Ans. I intended to fire it secretly.

Int. 35. Why fire it secretly?

Ans. Because I did n't want to have it known, on account of Mr. Colt's discharging some hands who had experimented on revolvers.

Int. 36. Where does Mr. Steele now reside?

Ans. In Brooklyn, N. Y. His name is Ferdinand.

Int. 37. Was or was not the result of that experiment satisfactory to you?

Ans. It was not.

Int. 38. Why not?

Ans. Because there was so much escape of the explosive gas be-

tween the cylinder and breech, which would endanger the other charges if the other chambers had been loaded.

Int. 39. When was this experiment made?

Ans. When I was at work on turning barrels, in February or March, 1849; in March or April.

Int. 40. Did you after that make any other experiments, and if so, when? and state what they were.

Ans. I did, either in March or April, 1849; I got a piece of leather, punched a small hole in the centre of it; I cut it out, so that it would just fill the bore of the chamber, made the hole in front larger than rear, so that the action of the explosive gas would act on it in such a way as to expand it, and thereby stop the escape at the rear of the chamber when fired; I took this same cylinder and breech and loaded it the same way, except that the chamber was not quite filled with the powder, leaving some, so that I could put in this leather packing; after that, I went over to Mr. Lincoln's shop, and fired it in the basement; the leather stopped the escape at that time, and I was satisfied with the experiment.

Int. 41. In this second experiment with leather packing, did you use Holden's, or any person's pistol?

Ans. I used Holden's before I returned it after first experiment.

Int. 42. Did you use Holden's for the second, as well as the first experiment?

Ans. I did.

Int. 43. Did any one know of this second experiment, and if so, who?

Ans. I don't know whether any one saw me or not.

Int. 44. Did you, subsequent to that, make any other experiment with cylinder bored through, and if so, what was it and where was it?

Ans. I did, very soon after I came back in August 1849. I either took that breech, or another with a ratchet on it, drilled a hole through it and into the rear of the cylinder, put in an iron or steel pin, so as to revolve the cylinder by the breech with the action of the lock-work or hammer. I then loaded all the chambers by putting in the balls, nearly filling the chamber with loose powder, and putting in leather-packing, as before described, in each chamber, put the caps on each of the nipples,

borrowed a Colt's pistol either of Holden or my brother J. D. White, and applied this cylinder so loaded, and fired it in the basement of Lincoln's shop. Mr. Steele, I think, saw me fire it at that time. I discharged all the chambers, one after the other. It operated well, and to my satisfaction.

Int. 45. Who, if any one besides Steele, saw this pistol at or about this time?

Ans. My brother, Mason White, saw the cylinder and the breech.

Int. 46. Did you make any other experiment after that, and if so, when and what was it?

Ans. I did, about that time, took one of Colt's cylinders with a ratchet on it, drilled the breech the size of the chamber through to the nipple seat, or the recess cut in the cylinder for the shoulder of the nipple. I then borrowed an arbor from Seymour Brown, and put the cylinder on the arbor, turned off the rear part of the cylinder down below or near to the centre below the chamber, so that I could insert a cartridge in the rear. I then took a refuse cylinder that had the centre hole, and drilled it larger, so as to slide on the rear part of this cylinder, to form a breech, or fill up a space; between the chambers and lock-plate drilled a hole and put in a nipple; on one side put it on to one of Colt's lock-frames and marked it by the lock-frame, so that I could file it out, and have it correspond with the recess in the lock-frame left in Colt's lock-frame, for the purpose of capping the nipples. I made this so that I could load in the rear without taking off the cylinder. I loaded it and fired it by using packing, as before described, to stop the escape.

Int. 47. Have you a model representing this last experiment, and if so, will you produce it?

Ans. I have, and produce it, (said model is marked "Exhibit E.")

Int. 48. State what was the result of the firing that experiment?

Ans. It operated satisfactorily.

Int. 49. State when this experiment was made.

Ans. In 1849 or the fore part of 1850.

Int. 50. Did any one, and if so who, see the pistol so made?

Ans. I think Seymour Brown, Mr. Fisk, my brother Mason White, and Mr. Austin W. Bailey.

Int. 51. Did either of the persons you have named witness the firing of this last-named pistol?

Ans. No.

Int. 42. Did any one else, and if so who, see it fired?

Ans. Mr. Steele might. He was around the shop when I went in.

Int. 53. Did you make any other experiment after this, and if so, when and what was it?

Ans. I made another experiment about 1852. I took another cylinder, either one that I had purchased of Mr. Colt, or one of Colt's cylinders, and cut off the rear part, put a plate over the nipples, so as to make the surface smooth, and fitted the cylinder and that breech together as close as I could, and have it as long as I could revolve on the lock-frame with the barrel on Colt's pistol. I made as tight a joint as I could for the purpose of stopping the escape of the elastic fluid, so that it would not communicate with the other charges; I loaded this cylinder, put it on to one of Colt's pistols, and fired it. I found I could not stop the escape in that way. I spoke to my brother, Mason White, about it, and told him what the effect was, and he asked me if I was sure that I could stop it with the leather packing; I told him that I was, and to satisfy him I loaded and fired the pistol with the leather packing in the rear of the chamber, and brought the breech to the shop and exhibited it to him, so he could see if there was any escape or smoke. There was not any of any consequence. There could not any be seen except where the small hole was in the leather packing where the fire from the cap communicated with the charge. In this breech there was a hole drilled so as to correspond with the one that I had drilled in the cylinder that I had previously used. This breech which I now exhibit, and which is marked "Exhibit F," is the one that I used at that time.

Int. 54. You say that after cutting off this breech from one of Colt's cylinders, you put a plate over the nipples. Is that plate on the "Exhibit F?"

Ans. It is.

Int. 55. State which is that plate on the exhibit.

Ans. It is the plate that comes in contact with the rear of the cylinder, when put on to the lock-frame with the cylinder.

Int. 56. Why was it necessary to put on such plate?

Ans. So as to make the surface smooth, and so I could fit it nicely together to stop the escape.

Int. 57. In making the Colt's cylinders, do the holes in which the nipples are inserted, extend through to the bore of the chambers?

Ans. They do.

Int. 58. If you had not put on the face plate on "Exhibit F," after you cut it off from the cylinder, what would have been the appearance of the surface?

Ans. It would have been an uneven surface where the nipples came to the face of the breech.

Int. 59. How did you fasten on the face plate on "Exhibit F?"

Ans. I think I soldered it on.

Int. 60. Can you see on Exhibit F, any mark indicating where it is joined on to the body of exhibit?

Ans. I can see a slight mark.

Int. 61. About how thick is that plate?

Ans. A little over a sixteenth of an inch, I should think.

Int. 62. Look at Exhibit G, and state what that is.

Ans. It is the rear part of one of Colt's cylinders, with the nipple-hole extending through, as they are in the rear part of his cylinders.

Int. 53. Compare Exhibits F, and G, and observing the thickness of the face-plate on Exhibit F, state whether such an examination will enable you to say whether the surface of Exhibit F, before you soldered the face-plate to it, was like the face of Exhibit G, cut down to the level of the ends of the nipples, or whether it presented the five nipple-holes extending beyond the inner end of the nipples.

Ans. I think there was some little space between the nipples and the plate.

Int. 64. Did your brother, Mason White, witness the firing of this last experiment, after you put in the leather packing, or examine the arm after you had fired, to see if he could see any indications of spreading fire?

Ans. He did not see the arm fired. He saw the breech, and examined it for the purpose named in the question.

Int. 65. You speak of a hole through Exhibit F, which corresponded with a hole in the end of the cylinder. What was the purpose of that hole?

Ans. The purpose of that hole was to put in a pin to revolve the cylinder by, and that pin is represented on Exhibit F.

Int. 66. Where is the cylinder which you used in connection with Exhibit F, in the said experiment?

Ans. It is in the Patent Office; it is part of the model I sent to secure Letters Patent for the extending the chambers through the cylinder for the purpose of loading in the rear.

Int. 67. Look at a certified copy of a model of a patent granted to you on the 3d of April, 1855, and state whether it is a copy of a model referred to by you in your last answer.

Ans. It is a copy.

Int. 68. Looking at the cylinder in the certified model of your patent, I find that there is no hole in the rear end corresponding to the pin in Exhibit F, but that there is such a hole in the front end of said cylinder; can you state how that happened?

Ans. When I cut the notches for the stop on the cylinder, that appear on one end of the periphery of the cylinder of the certified model, I made them on the other end from what I intended to; therefore I had to bore out, or ream the rear end of the cylinder, as it is now placed on the model.

Int. 69. Before you cut the notches on the cylinder for your model, what was the condition of the bore of the chambers—were they the same size from end to end, and if not, which was the largest end relatively to the hole for the pin of Exhibit F?

Ans. There was one or two of them which was made a little larger at the end, where the hole is drilled for the pin.

Int. 70. After your model was completed, which end was the largest; the end where the hole for the pin is, or the opposite end?

Ans. The opposite end.

Int. 71. Is that what you meant when you said in one of your former answers, that you reamed out of the end of the chambers, after you fired, that you had cut the notches on the wrong end of the cylinder?

Ans. It is.

Int. 72. When did you make Exhibit G?

Ans. I didn't make it; Mr. Wesson brought it here.

Int. 73. Look at Exhibits G and H, and state what they represent.

Ans. They represent a Colt's cylinder cut in two.

Int. 74. Do they represent any of the experiments to which you have testified, and if so, which one?

Ans. They represent the first one, made in 1849; it is the first one about which I have testified.

Int. 75. In the first experiment to which you have testified, were the breech and cylinder connected by a pin, as in Exhibits G and H?

Ans. They were not in the first experiment.

Int. 76. In the first experiment to which you have testified, did the breech have a ratchet, as in Exhibit G, so that it could be turned by the lock?

Ans. I don't recollect.

Int. 77. Did you at any time, and if so, when, make any experiment with a view to use Sharpe's cartridges, with a cylinder having the chambers bored entirely through?

Ans. I did, the kind of cartridges that Sharpe used; as near as I could find out it was 1851.

Int. 78. What was the result of such experiment?

Ans. I fired one cartridge; when the cylinder revolved, this cartridge came up against a knife that was screwed on to the recoil-shield of Exhibit E; a portion of this recoil-shield was cut away so as to let the cartridges project out of the rear of the cylinder, leaving a shoulder on the recoil-shield near the nipple, the knife projecting over so as to come in contact with the cartridge, and cut off the rear end, so as to be ignited when it came in line with the barrel; the result at that time was that I fired it.

Int. 79. Was that experiment successful?

Ans. I tried it again, and it didn't prove successful; I put in a number of cartridges, and when I fired it, some three or four went off at the same time.

Int. 80. State what you mean by a Sharpe's cartridge as then used?

Ans. They took a ball and wound a paper on the rear end of the ball, forming a tube; I think they wound a string round the paper, so as to confine it to the ball, then put in their charge of powder into this tube and folded the paper down so as to confine the powder in it, and when they wished to fire it, the cartridge was inserted in the chamber; it came in contact with a sharp knife, or edge, by closing the breech; it cut off the rear part of the cartridge that projected out of the chamber, thereby exposing the powder to the action of the fire from the cap; this last experiment was made in summer or fall of 1854.

Int. 81. When did you begin to make your preparations with a view to apply for a patent, which was granted to you on the third of April, 1855, numbered 12,648?

Ans. It was in the fall or winter of 1854?

Int. 82. What was the cause of your delay in making application for a patent, from the time of your experiments, in 1849, to the time when you began to prepare for making your application in 1854?

Ans. Because Colt had discharged some men he had found out were experimenting on revolving pistols, and I couldn't use the manner of revolving, because Colt then had a patent for that principle or manner of revolving.

Int. 83. From whom did you learn that persons had been discharged by Colt for experimenting on revolvers, and what was said to you, and when?

Ans. I learned from my brother, Mason White, I think in the summer of 1849, when I showed him my revolving cylinder, and I proposed to my brother at that time to exhibit it to Mr. Colt. He said if I showed it to him that we should all be discharged and lose our job. He told me that Mr. Miller had been discharged for experimenting on revolvers, and he was discharged, and my brothers then had a part of the job that Miller had left, and he insisted upon my keeping it still and not showing it to him. I conversed with my brother J. D. White. He told me the same as Mason White. I had a conversation with Thomas K. Work about it; he roomed with me at Mr. Greely's in Hartford, Connecticut, in the summer of 1849. He saw me at work making drawings, and knew that I was at

work on revolvers. He asked me what Colt would do if he knew that I was at work on them. I told him I supposed he would discharge me.

Int. 84. About how profitable was the work that you and your brothers were engaged in for Colt, from the time of your experiments in 1849 till the time you left him in 1854?

Ans. There were three of us that worked there; we had piece-work; as near as I can state, I think we cleared about \$40,000 during that whole time.

Int. 85. What is the advantage, if any, in loading the chamber from the rear in a pistol having revolving cylinder, with several chambers and one barrel?

Ans. It is more convenient, and it facilitates the operation. We can load without the use of a rammer.

Int. 86. If you load a revolver at the forward end of the chamber, without a rammer, what will be the consequence when you discharge one chamber?

Ans. If you load a cylinder from the front end without the use of a rammer or a substitute, it would be very hard to press the balls in so as to remain in their place at the discharge of the pistol. When the pistol is discharged, it recoils by the action of the charge forcing the ball out of the chamber into the barrel and into the atmosphere, which has a tendency to throw back the cylinder, so that the charges in the other chambers not in line with the barrel are thrown forward. Either the balls would project out the cylinder so as to obstruct or stop the revolving, or be thrown clear out.

Int. 87. How are these consequences prevented by inserting the charges in the rear end of the cylinder?

Ans. By making the chambers of the rear end of the cylinder larger, so that the ball will stop by the front end, being smaller; or by making the cartridge larger at the rear end, so as to hold it in its place, either by a projection on the rear end of the cartridge, or being made of a conical shape, and larger at the rear end, which effects the same result.

Int. 88. Did you hear the testimony of Brigham Balcom, given before the Examiner on Saturday last?

Ans. I did.

Int. 89. Where did you reside when you received a letter written by him, requesting you to call on Allen and Wheelock, at Worcester?

Ans. I resided at Hartford, in Vermont; over a hundred miles from Worcester, I should judge.

Int. 90. Have you got the letter?

Ans. I think I have; I looked for it, but could n't find the package I supposed it to be in.

Int. 91. For what purpose did you call on them, and who were present when you went there?

Ans. I think he wrote that they had some information that would be for our mutual benefit, and requested me to call and see them. Mr. Balcom was present, and Mr. Allen.

Int. 92. What was said by you and by Mr. Allen at that interview? State the whole conversation, in the order in which it occurred, as near as you can recollect.

Ans. Mr. Allen asked me about the trade I had made with Smith and Wesson. I reported to him what they paid on each arm for the privilege of manufacturing, and they had n't paid me as fast as what I supposed they had agreed to—that is, they didn't pay me as fast as it became due—no faster than they were obliged to, and not invalidate the agreement made between us. He asked me at what time I first conceived the idea of extending the chambers though the cylinder for the purpose of loading at the rear. I said to him that I could not tell until I looked at the date, so as to tell the time of the invention. He then asked me if I had got up or made a pistol like the one Smith and Wesson now manufacture. I replied that I had, with some exceptions, a hammer, a bolt, and some other things. He showed me a revolving pepper-box, with the hole bored clear through the rear of it. I suppose, by the looks, that it was intended to be loaded with the Smith and Wesson cartridge. He said that had been used in foreign countries, and was generally known a number of years previous to my obtaining my Letters Patent, and that my claim wasn't good for anything. Before he got through asking me questions, Balcom left the room. At the time I was there, he showed me one of his revolving pistols, and asked me what I thought of it. I said it was an infringement upon my patent.

He also said that he could prove that some person had exhibited to me, in Colt's shop, a pistol with the chambers extending through the cylinder before I made my invention. I told him there had not any person exhibited such pistol to me previous to my patent.

Int. 93. Did you tell Allen at that interview that it was n't a month after you first conceived the idea of boring the chambers entirely through the cylinders, before you applied for your patent, or any thing to that effect?

Ans. I did not. I could not tell, at that time, at what time I did conceive the idea, or the date.

Int. 94. Did you tell Allen that you couldn't tell the date of conceiving that idea without looking at your patent, a patent paper, or any thing to that effect?

Ans. I did not.

Int. 95. Were you led, at that interview, to suspect any purpose on the part of Allen to get statements from you, to be listened to by Balcom, and if yea, what led you to this suspicion, and did you in any way and how conduct yourself because of it?

[First part of question objected to as leading.]

Ans. I did; because, after his asking me a question about the invention, or when I conceived the idea of extending the chambers through the cylinder, the next question was if I had got up or made a pistol like the one Smith and Wesson now manufactured, previous to my obtaining Letters Patent. I told him I had, with some exceptions; and I saw that he didn't appear to want to know about any exceptions, and was guarded about answering them. At that time he told this gentleman (Balcom), that he could leave. I became disgusted by his manner, and wouldn't answer any more questions about it. After leaving his shop I went to the depot, took out my memorandum-book, and wrote the questions and answers that were the most important, pertaining to the extension of the chambers through the cylinder, so as to be positive in relation to what answer I gave as to the date of the invention.

Adjourned to 10 A. M. the 10th inst.

TUESDAY, June 10th, 1862.

Counsel on both sides present. Mr. Rollin White wishes to make an addition to his testimony as taken yesterday, by way of explanation as to conversation between him and Ethan Allen.

Mr. Allen asked me how long, previous to taking out the patent, it was that I made the model for extending the chambers through the cylinder for the loading in the rear. I told him I could n't tell the date until I looked at my patent papers. He wanted to know how long I thought it was: I said that it was about a month previous to my application to Munn & Co., to secure Letters Patent for me on said invention.

Int. 96. What model did you and he refer to, and where is the model?

Ans. I referred to the model in which I received the claim of extending the chambers through the cylinder. It is in the Patent Office. He referred to the same thing.

Cross-examination by Mr. Gifford, Counsel for defendants.

Cross-Int. 97. Why did Mr. Allen refer to the model in the Patent Office?

Ans. Because we were talking about that invention?

Cross-Int. 98. Do you think that for that reason, it was more natural for him to refer to the model in the Patent Office, than it was to refer to the first model you made?

Ans. He asked me about the invention when I first mentioned it, and I could n't tell him. For that reason I suppose he asked me about this model; I could not then tell him.

Cross-Int. 99. Have you now given the last reasons for saying that Mr. Allen referred to the model in the Patent Office?

Ans. I didn't intend to tell him the date of my invention in the conversation that I had with him, when I went there, for that reason. When he asked me the earliest date of my invention, I did n't give him any dates; and he tried to get as near as he could to it, and for that reason he referred to the model. He could n't get any date to any portion of the invention, except making the model.

Cross-Int. 100. Who was the first person to whom you communicated the date of your invention, after you obtained your patent?

Ans. I think it was Mr. Keller, my counsel.

Cross-Int. 101. When did you so communicate to him?

Ans. This was after I had seen Allen and Wheelock; I can't tell how long after; I am pretty positive it was after that time.

Cross-Int. 102. To whom did you communicate the date of your invention before you obtained the patent.

Ans. I don't recollect of any one.

Cross-Int. 103. What was you doing between the time when, you say, you conceived the idea of something like exhibit C, and the time you commenced to work for Mr. Colt, in 1849?

Ans. I was to work in a saddler-shop a short time, for A. C. Church, a brother-in-law of mine. That was the first work I done after getting hurt in a saw-mill, which was in 1839, as near as I can recollect; I next worked in a gun-shop for my brother, J. D. White, at Williamstown, Vermont. I should think I was to work there about two years; I then worked in a grist-mill at same town for my father, Josiah White. This was about 1840; next in Farmers' and Mechanics' store in Williamstown, Vermont, for nearly two years. Then in Boston, clerk in a store, Hanover street, Tresetheren & Co., for less than a year. My father was taken sick, and I was obliged to return to Vermont; next I worked on a loom for weaving bolting-cloth; I commenced work in Vermont, and went to Barre, Massachusetts, and put two looms in operation there; I was there not quite a year. I returned to Vermont, and purchased one-half of the mills at Williamstown, Vermont, a grist and saw-mill; I next went to Colt's.

Cross-Int. 104. What kind of arms did J. D. White make at the time you worked for him, as mentioned in your last answer;

Ans. Made pistols, shot-guns, and rifles.

Cross-Int. 105. Are you not aware that the way of rotating breeches represented in exhibit C was well known prior to 1837?

Ans. No, sir.

Cross-Int. 106. Do you think that you were the first to conceive the idea of so rotating breeches?

Ans. No, sir.

Cross-Int. 107. Where did you get the idea from of so rotating them?

Ans. I saw a gun with rotating breeches, like Exhibit C, or similar, in Joshua Twing's shop in Barre, Vermont.

Cross-Int. 108. When did you make your application for a patent, on which this suit is brought?

Ans. I employed Munn & Co. to make it for me; therefore I couldn't tell the time I made the application to Munn & Co.; I made the application to them in January, 1855.

Cross-Int. 109. Do you know why there was so much delay before the patent issued?

Ans. I do not. I had a number of applications with them at the same time.

Cross-Int. 110. How many, and how many patents were issued on these applications?

Ans. I believe five, and five were granted, including the one on which this suit is brought.

Cross-Int. 111. Have any of the inventions for which the other four patents were granted gone into use; and if so, who manufactures them?

Ans. Not that I know of.

Cross-Int. 112. Were those four patents all on fire-arms?

Ans. They were.

Cross-Int. 113. Have you ever taken any patents except the five you have just mentioned, and the one for a loom for weaving bolting-cloth, also mentioned by you?

Ans. I have.

Cross-Int. 114. How many, and for what subjects?

Ans. I have two — one for cartridges and one on fire-arms — both American patents.

Cross-Int. 115. Have the inventions for which the last-mentioned two patents were granted gone into use; and if yea, who manufactures them?

Ans. They have not, to my knowledge. Parties are stipulating now in relation to one.

Cross-Int. 116. In answer to the 81st interrogatory in chief, you say that you began to make preparation with a view to apply for a patent in the fall or winter of 1854. Of what did that beginning of such preparation consist?

Ans. I borrowed a lathe of my brother, J. D. White, and put it into a room in the house that I rented in Hartford, Connecticut, on Village street; got some few tools. I had one of Colt's pistols that I used at that time.

Cross-Int. 117. What did you do with the lathe, tools, and Colt's pistol, in relation to fire-arms?

Ans. We used the lathe to do some turning and drilling; had files there, and tools for turning wood. I used Colt's pistol for applying some improvements in trying it.

Cross-Int. 118. Did you make any thing, and if yea, what, by the use of those tools and that Colt's pistol?

Ans. I made some wooden models; the most of that work was done at the house.

Cross-Int. 119. How many wooden models, and of what?

Ans. I made four. The most part of them were wood, and I think put some wood on this Colt's pistol.

Cross-Int. 120. Had you ever before that time owned a Colt's pistol?

Ans. I had.

Cross-Int. 121. When and where did you procure it, and what did you pay for it?

Ans. I procured one at Colt's shop, in about 1852. It cost me \$18.50. I bought one in Springfield, Massachusetts, and paid \$10 for it. Can't tell the date when I purchased it.

Cross-Int. 122. You say you applied some improvements to the Colt's pistol which you procured to begin preparations, with a view of applying for a patent. What improvements do you mean?

Ans. Improvements for extending the chambers through the cylinder, and cocking and revolving it by the action of the lever; also loading from the magazine. There was a guard-plate, I think, in front, and springs in the rear of the cylinder, to guard against the lateral fire in using Sharpe's cartridges.

Cross-Int. 123. Where is that pistol?

Ans. It is in the Patent Office.

Cross-Int. 124. For what purpose was it put there?

Ans. To get a patent on the improvements I had made.

Cross-Int. 125. What has been your business since the time when you commenced to prepare to apply for a patent?

Ans. When I commenced to prepare to get out my patent, I was at work at Colt's shop. After I left Colt's shop, which was about December, 1854, a part of the time for less than two years, I worked part of the time on my improvements, in trying to get parties to manufacture arms with my improvements on them. In 1856, or about that time, I commenced in the mercantile business, in Hartford, Connecticut, carrying on business about a year; and then about a year wasn't doing anything, working part of the time in getting up some invention of mine. Then moved to Davenport, in 1858 or 1859, and sold goods a portion of the time as clerk in a dry-goods store; and I have been at work on inventing a portion of the time for a year past.

Cross-Int. 126. Who, if any one, helped you apply your improvements to the Colt's pistol, in the fall or winter of 1854?

Ans. No one, that I recollect of.

Cross-Int. 127. From whom did you procure the lathe and tools which you say you procured?

Ans. From my brother, J. D. White.

Cross-Int. 128. Have you made any pistols since you procured those tools? I don't mean the model for the Patent Office.

Ans. I only loaned the lathe for a short time. I borrowed it to work on the models; soon after I got through, I returned it.

Cross-Int. 129. Have you since that time made any pistols?

Ans. I have made only one, except the altering of some already made.

Cross-Int. 130. Have you ever had, or ever applied for, any foreign patent on arms?

Ans. I have not.

Cross-Int. 131. Why did you not apply for a foreign patent for extending the chambers through the cylinder?

Ans. I was intending to apply, and spoke to Mr. Wesson about it, but before we got ready to make application I had made application to the Patent Office here, for an improvement in closing the recoil-shield in rear of one of the chambers, where we inserted the cartridge in the rear of the cylinder, and also a rod for forcing out the cartridge or shell; and that claim was rejected on account of the English patent granted to Johnston, and that is the reason we didn't make application.

Cross-Int. 132. What had that last-mentioned application of yours to do with extending the chambers through?

Ans. It could only be used in connection with the extending the chamber through the cylinder.

Cross-Int. 133. What had the English patent to do with the extending the chambers through the cylinder?

Ans. The representation of the English patent had the chambers extending through the cylinder in connection with the rammer, and I think the closing of the breech.

Cross-Int. 134. In your examination in chief you mentioned that you worked for Colt at two different times. How long an interval was there between those times, and what was the cause of your discontinuing the first time?

Ans. I was absent about three months. I then owned one half the mills at Williamstown—grist-mill and saw-mill—and when the ice thawed out of the stream, I returned to see to the sawing out of the lumber that spring.

Cross-Int. 135. Did any body, and if yea, whom, help you in making the experiments which, in your examination in chief, you say you made in 1849, and 1851, and 1852?

Ans. Did not.

ROLLIN WHITE.

Sworn to and subscribed before me, this 10th June, 1862.

R. E. STILWELL, *Examiner, etc.*

And in answer to further Cross-Interrogatories proposed to him by Cauter Browne, Esq., counsel for respondents, deponent saith as follows, to wit :

Cross-Int. 1. In your deposition in chief you referred to several models representing experiments made by you in and after the year 1849 ; were either of those models the identical instruments with which you tried such experiments ?

Ans. They were not the identical things, but things like them.

Cross-Int. 2. What became of the identical things after those experiments were tried ?

Ans. They were put in a box, and were in the attic a portion of the time, where I lived, and when I moved to Davenport we lost one box in shipping our goods, and what were not lost before that time were lost then, I suppose. I couldn't find them when I was looking up this case, or the former case against the Bokers.

Cross-Int. 3. Was there anything else in the box with them, and what ?

Ans. There was other things that I had tried experiments with, and it was a place where I kept some tools.

Cross-Int. 4. Did you obtain more than one patent dated April 3d, 1855, and if so, how many ?

Ans. There was two, I think, if not more ; there were five applications about the time that I applied for the patent now in suit.

Cross-Int. 5. Did the same drawings serve for more than one of them, and if so, for how many ?

Ans. For only one.

ROLLIN WHITE.

Boston, April 30, 1863. Subscribed and sworn to before me.

N. AUSTIN PARKS, Examiner.

Boston, May 2d, 1863.

And now the above named Rollin White appears and is duly sworn, and corrects his testimony by saying that the *revolving* breech with the nipples, made an exhibit in the Boker case, in New York, is one of the identical instrument used in his experiments; and that the cylinder in his Patent Office model in one of those which he used in said experiments; also the Patent Office model belonging to his other patent of April 3d, 1855, contains some of the identical parts used in said experiments.

ROLLIN WHITE.

Subscribed and sworn to this 2d May, 1863, before me.

N. AUSTIN PARKS, *Examiner*.

DEPOSITION OF MASON WHITE.

Mason White, being called and sworn on part of complainants, deposes and says:

Int. 1. What is your name, age, residence and occupation?

Ans. Mason White, 38 years of age, reside at Bridgeport, Connecticut, and am in the clothing business.

Int. 2. Have you ever been engaged in the gun-making business; and if yea, when did you begin, and how long did you continue in it?

Ans. I have; I began in the fall of 1846, in Windsor, Vermont. From there I went to Hartford, Connecticut, and commenced work for Samuel Colt, making revolving pistols in May, 1848, and continued working for him till the fall of 1854.

Int. 3. Have you any recollection of a pistol owned by your father many years ago, which was loaded differently from pistols then in general use; and if yea, state when you first saw it and how it was loaded?

Ans. I have a recollection of seeing a small flint-lock pistol belonging to my father, as early as 1832, to load which, the barrel had to be

unscrewed, and the charge placed in the breech, and remember of often firing the pistol.

Int. 4. Have you any recollection of a pistol in your brother J. D. White's shop, having a series of barrels around a common centre, like the pistol now generally known as the pepper-box pistol; and if yea, state when it was, and whether your brother Rollin White suggested the making any improvement on such pistol, and what such improvement was?

Ans. I remember seeing such a pistol left in my brother J. D. White's shop, for repairs, in about the year 1840. I remember of hearing my brother Rollin suggest to my brother J. D. White some improvements in the pistol. What those improvements were I do not now recollect.

Int. 5. When you were at work for Samuel Colt, in Hartford, Connecticut, did your brother Rollin White work with you for Colt, and if so, from what time to what time?

Ans. He commenced working for my brother J. D. White and myself on a contract, which J. D. White and myself had of Mr. Colt in February, 1849. He worked for us about two months, was absent almost three months, and then again worked for us till April, 1852.

Int. 6. From April, 1852, onward, did your brother Rollin White work for Colt; and if so, in what capacity, and for what length of time?

Ans. He did, working directly for Mr. Colt, until in the winter of 1854, as contractor.

Int. 7. Have you any recollection during the time that your brother Rollin worked for you, or when working directly for himself as a contractor for Colt, of his making any improvement in revolvers; and if yea, state what such improvements were, and what knowledge you had of them?

Ans. I have, in March or April, 1849. He showed me a cylinder which he told me he had made from one of Colt's small-sized cylinders, it being in appearance the same as one of Colt's cylinders with the rear end cut off, so that the chambers extended through the cylinder, claiming it as an improvement upon Mr. Colt's pistol, being similar to Exhibit H.

Int. 8. Did he tell you what advantages he supposed it would have over Colt's; and if yea, what did he say?

Ans. He told me it would facilitate the loading, and be much easier kept clean and in repair.

Int. 9. Did you at any other time after that, see the same or any other cylinder like it, and converse with your brother Rollin in relation to said improvements, and if so, when?

Ans. In the summer or fall of 1849, I again saw the same or similar cylinder, with a breech similar to the rear part of Colt's cylinder, similar to Exhibit G, and in conversation with him, made objections to his improvement in the shape which he then proposed to use it, claiming that it was unsafe, as the fire would communicate from one to the other chambers in discharging the pistol, and of the loss of powder by the leakage between the cylinder and the breech. His reply was, that he either had or could obviate any such difficulty.

Int. 10. Did he then, or afterward, and if so, when afterward, tell you how he had or could prevent such difficulty?

Ans. I think it was some two or three months afterward. He showed me a piece of leather of the size of the chamber, to the cylinder, with a small hole through its centre, which he claimed, by being used at the base of the charge in the cylinder, would obviate all my objections.

Int. 11. Look at exhibit E, and state whether you ever saw anything like it before; and if so, when first, and who showed it to you, and what it was intended for?

Ans. I have. I saw something similar to this in 1850 or 1851, as shown to me by Rollin White, which he claimed was an improvement on revolving pistols.

Int. 12. Did he state to you at that time the object of such improvement; and if yea, what was such object?

Ans. He stated to me that by this improvement, the pistol could be loaded without taking the cylinder from the lock-frame.

Int. 13. Did you at any time have a conversation with your brother Rollin, as to what would be the consequence of his prosecuting his improvement in revolvers at that time; and if so, what was it?

Ans. In the summer or fall of 1849, he stated to me that he wanted

to show the improvement to Mr. Colt. I immediately told him that I had been informed that Mr. Stevens, Mr. Miller, and his brother had been discharged by Mr. Colt for suggesting or making improvements in pistols, and insisted that he should not let Mr. Colt know that he was making any improvements in pistols, for fear that we all should be served as was Stevens and Miller, and lose our contracts.

Int. 14. Did T. K. Work and A. W. Bailey work for you at Colt's factory? and if yea, state when each commenced so to work, how long each continued there, and how you are able to state the time.

Ans. They did. T. K. Work commenced Sept. 3d, 1849, and continued working for me till June, 1851. A. W. Bailey commenced in October, 1851, and worked for me till April, 1852. My authorities are my time books, which are here exhibited, and which were kept at the time. I think Mr. Work left the shop when he ceased working for me; and A. W. Bailey, on leaving my employment, went to work for my brother Rollin.

MASON WHITE.

Subscribed and sworn to before me, this 10th June, 1862.

R. E. STILWELL, *Examiner, etc.*

DEPOSITION OF ALMON COOLEY.

Almon Cooley, being called and sworn on behalf of complainants, deposes and says:

Int. 1. What is your name, age, residence, and occupation?

Ans. Almon Cooley; thirty-eight years of age; reside at Hartford, Connecticut, and am a machinist.

Int. 2. Where did you reside in 1849 and 1850?

Ans. In Hartford, Connecticut.

Int. 3. Did you board with Rollin White at that time, in Hartford?

Ans. I boarded in the same boarding-house with him.

Int. 4. Did you see, at that time, in his possession, a revolving gun or rifle? and if yea, state about when it was, and how the breech or cylinder revolved.

Ans. I did; it was in the fall or winter of 1849 and 1850. The cylinder revolved by hand instead of by the lock.

Int. 5. What did he say to you about that gun, and why he got it?

Ans. He stated to me that it was a rifle he had borrowed for the purpose of attaching an improvement in revolving fire-arms. He likewise said that this gun would not answer the purpose he wanted it for. He said that he had got up, and invented, and wished to attach something to this gun that would be superior to Colt's, and not interfere with his (Colt's) patent. That is all I think of now.

Int. 6. You say that he told you this rifle would not answer his purpose; did he tell you why it would not answer his purpose?

Ans. I don't know that he gave me any particular reason for it; I don't think he did.

A. COOLEY.

Subscribed and sworn to before me, this 10th June, 1862.

R. E. STILWELL, *Examiner, &c.*

DEPOSITION OF FERDINAND STEELE.

Ferdinand Steele, being called and sworn on the part of the complainants, deposes and says:

Int. 1. What is your name, age, residence and occupation?

Ans. Ferdinand Steele; thirty-three years of age; reside in Brooklyn, and am a mechanical engineer.

Int. 2. Were you ever employed in the Phoenix Foundry in Hartford, conducted by George S. Lincoln; and if so, during what time?

Ans. I was, in the years 1848 and 1849.

Int. 3. Did you know Rollin White at that time? and if yea, state whether you boarded in the same house with him.

Ans. Yes, sir; he boarded in the same place with me in the winter of 1849.

Int. 4. Did he at any time come to the Phoenix Foundry, and ask you if there was a place there where he could fire a pistol?

Ans. Yes sir; I told him there was one down by the water, through the floor into the floom, where he could fire in the water.

Int. 5. State whether he went down there and fired.

Ans. Yes, sir, he did.

Int. 6. When was this?

Ans. I should judge it was the fore part of the spring of 1849—spring or summer. Spring I should say.

Int. 7. Did you notice the pistol he had at that time? and if yea, state whether you noticed anything about it, and what it was.

Ans. The second time he tried it I noticed it, and supposed it was a Colt's pistol unfinished, as it had a bright cylinder. I made the remark at the time, that Mr. White must be making an experiment, or trying some new pistol.

Int. 8. At that time what was the appearance of the Colt cylinder when finished?

Ans. Either blue, or a mixture of brown, as the case-hardening would color it.

Int. 9. You have stated that you noticed the cylinder was bright the second time he came there. Did he fire pistols in that place more than once, and if so, about how often?

Ans. I should judge some four or six times in all.

Int. 10. When did you leave the Phoenix Foundry?

Ans. In the fall of 1849.

Int. 11. Did the firing of which you have testified all take place before you left?

Ans. Yes, sir.

Int. 12. Are you enabled to state positively that it was in 1849 or about that time by your age?

Ans. Yes, sir. The last year I was there I had full charge of the steam-engine. I left that fall; the fall before I was twenty-one.

F. STEELE.

Subscribed and sworn to before me, this 10th June, 1862.

R. E. STILWELL, *Examiner, etc.*

DEPOSITION OF HARVEY FOSTER.

Harvey Foster, being called and sworn on part of complainants, deposes and says:

Int. 1. What is your name, age, residence, and occupation?

Ans. Harvey Foster; thirty-three years of age; reside in Meriden, Connecticut, and am a mechanic.

Int. 2. Did you ever work for Rollin White, in Hartford, Connecticut, and if so, during what time?

Ans. Yes, sir, during the winter of 1849 and 1850.

Int. 3. Look at the cylinder marked Exhibit E, and state whether you ever saw any thing like it before; when first, and who showed it to you.

Ans. I should think I saw the cylinder in Rollin White's possession in 1849 and 1850.

Int. 4. Did you notice whether the chambers were bored only a part of the way, or entirely through?

Ans. They extended clear through.

Int. 5. At or about that time, did you have any conversation with Rollin White about Colt's and other revolvers, and if yea, state fully the substance of such conversation.

Ans. About that time we had some conversation. I remarked to him something about the improvements that had been made in that kind of fire-arms, and I think I told him something about the construction of

the first revolving arm I ever saw. He stated that he would like to get up something that would be superior to Colt's. I asked him if he couldn't do it—if he couldn't get one up. He said he thought if he had the time and place he could make some improvement on it. I think that was all that was said concerning the improvement at the time.

Int. 6. Did he say anything about getting some mode of revolving a cylinder that would be different from Colt's, and if so what was it he said?

Ans. I think he made the remark that he would like to get up something that would be self-acting, or a self-acting cylinder, that would not infringe upon any one else's patent.

HARVEY FOSTER.

Subscribed and sworn to before me, this 10th June, 1862.

R. E. STILWELL, *Examiner, etc.*

Adjourned to 11 A. M., the 11th inst.

DEPOSITION OF THOMAS K. WORK.

WEDNESDAY, June 11th, 1862.

Counsel on both sides present.

Thomas K. Work, being called and sworn on part of complainants, deposes and says:

Int. 1. What is your name, age, residence, and occupation?

Ans. Thomas K. Work; thirty-four years of age; reside in Hartford, Connecticut, and own a brick-yard, and carry on the brick business.

Int. 2. Did you ever work in Samuel Colt's shop in Hartford while Rollin White worked there, and if yea, from what time to what time?

Ans. I went there in the fall of 1849, soon after the first of September, and worked there till the spring of 1851.

Int. 3. Whilst you were there, did Rollin White have a gun or rifle with a revolving breech or cylinder? If yea, state what White said to you, if anything, as to the purposes for which he obtained said gun.

Ans. He had such a gun at the boarding-house. I boarded at the same house he did. He said, in substance, that he wished to make an application of what he said was an improvement of his. He was not able to apply it, owing to the cylinder revolving by hand, or not by the operation of the lock-work. He expressed himself—the sum and substance was this: that he had an improvement in revolving fire-arms, and wanted to get some mechanism to revolve the cylinder that would not interfere with Colt's. He said the rifle would not do. He thought it revolved by the operation of the lock, but he found it did not, but by hand.

Cross-examined by Mr. Gifford, counsel for defendants.

Cross-Int. 4. Can you state any of the words which Rollin White used in conversation, when you say he made the communication to you which you have above spoken of?

Ans. Well, I wouldn't attempt to use the precise language. I must have used some of the words, but the precise language I would not attempt to state.

Cross-Int. 5. Repeat all the words that he used, as far as you can remember.

Ans. It would be utterly impossible for me to do it, the precise words.

Cross-Int. Do you know any difference between the words which he used and "the precise words" which he used?

Ans. I don't know any difference, I am sure.

THOMAS K. WORK.

Subscribed and sworn to before me, this 11th June, 1862.

R. E. STILWELL, *Examiner, etc.*

DEPOSITION OF AUSTIN W. BAILEY.

Austin W. Bailey, being called and sworn on part of complainant, deposes and says :

Int. 1. What is your name, age, residence, and occupation ?

Ans. Austin W. Bailey ; 28 years of age ; reside at Davenport, Iowa, and my business is books and stationery.

Int. 2. Were you engaged in working at Colt's establishment at the time Rollin White worked there ; and if yea, state when you commenced working there, and when you left ?

Ans. I was. I commenced working in the shop last of September, 1851, or the first of October. I roomed with Rollin White about two months when I first went there, and left in the summer of 1855.

Int. 3. Did you ever, and if yea, when first and where, see a cylinder substantially like Exhibit II ; and if yea, who showed it to you, and where ?

Ans. I saw a cylinder similar to that during the fall of 1851, in Mr. Rollin White's trunk—in the lid of his trunk—while I was rooming with him in the Franklin House ; and upon inquiring about the different kinds of fire-arms he had there, those were shown to me. Or perhaps I should say first, that Mr. Rollin White first showed me a Colt's pistol, and explained it to me, after which he showed me this cylinder. I will not be able to give you the exact words, but it was, that it was to be an improvement, or an improved pistol.

A. W. BAILEY.

Subscribed and sworn to before me, this 11th June, 1862

R. E. STILWELL, *Examiner, etc.*

Adjourned to 10 A. M., the 12th inst.

DEPOSITION OF JOSEPH S. WARE.

THURSDAY, June 12th, 1862.

Counsel on both sides present.

Joseph S. Ware, being called and sworn on part of complainants, deposes and says :

Int. 1. What is your name, age, residence, and occupation ?

Ans. Joseph S. Ware ; 54 years of age ; reside at Worcester, Massachusetts, and am a gun-maker.

Int. 2. How long have you resided in Worcester, and carried on the gun-making business ?

Ans. Since January, 1827 ; and learned my trade and commenced business about 1833 with my brother, and was with my brother one year ; then I had another partner, and went in partnership with my brother again on the 1st January, 1841, and continued with him till April, 1846.

Int. 3. Did you know Jubal Harrington, of Worcester ; and if yea, when did you first know him, and for how long ?

Ans. I first knew him in 1828, and down to 1850.

Int. 4. Did Jubal Harrington at any time, and if yea, when first, bring to your shop in Worcester a gun, or part of a gun ; and if he did, please describe it, and state the purpose for which he first brought it there ?

Ans. He did, about 1843—I think about that year. He brought it to have nipples set in the steel charges or chambers. The gun had a revolving cylinder, with a face-plate on the butt end of the barrel, next the cylinder, another plate corresponding in size in the rear of the revolving breech. The last plate was attached firmly at the end of the iron work that was to receive the stock. The cylinder had six holes, I think, clear through it—either five or six, I think six. One through the centre, for the centre-pin, for the cylinder to revolve on. The steel charges were put into the back part of the cylinder, through a hole made in the back-plate. It had neither lock or stock. What I have

described comprised all there was of the gun. The nipples were fixed into the steel charges for him. He then took the gun away. The cylinder was revolved by hand; there was no machinery attached to it.

Int. 5. Look at the cylinder upon the Jubal Harrington model, as it is called, and state whether the cylinder of the gun had holes cut to receive the nipple similar to the holes for that purpose in the cylinder of the exhibit?

Ans. It had.

Int. 6. After taking away this gun from your shop, was it again brought back by Harrington, and left there; and if yea, what was its condition when so brought back and left?

Ans. It was brought back, and it had the appearance of having been fired and blown up. The forward plate, between the barrel and revolving chamber, was pressed off and bent, so as to open the joint between the barrel and revolving chamber. It opened it wider on one side than on the other. One or more of the steel charges were burst — there was one burst.

Int. 7. Did Harrington state to you whether he had fired it?

[*Objected to.*]

Ans. He did in my presence.

Int. 8. State what he said when he brought it back?

[*Objected to.*]

Ans. He said he had fired it, with a common hammer to strike the cap. I don't recollect the particular expression he made, but he said he thought the day of judgment had come — I recollect that. I don't recollect nothing more taking place at that time.

Int. 9. What became of this gun after that, so far as you know?

Ans. It was set up-stairs, the building being a story and a half high, in our shop, and remained there to my knowledge till 1846. I was absent from that shop from 1846 till 1851. In 1851 the gun was still there. That is the last I can speak of it with any degree of certainty.

Int. 10. When the gun was brought back in the condition you have stated, did you examine it and ascertain whether more than one charge had exploded at the same time?

[Objected to, because it asks the witness for an answer respecting what, from the nature of the case, he could not have known.]

Ans. We concluded by the appearance of the gun that there was. I believe that the whole of them went off.

Int. 11. Look at the Jubal Harrington model, and state whether the plate on the end of the barrel of the gun, before the gun was brought back in this condition, fitted close to the end of the cylinder, or was at some distance from it, as you see in the model?

Ans. It fitted closer than that, to my best memory. It was a smooth-bored gun.

JOSEPH S. WARE.

Subscribed and sworn to before me, this 12th June, 1862.

R. E. STILWELL, *Examiner, etc.*

The counsel for the defendants here say that they will not deny the state of facts as sworn to by the last witness, Joseph S. Ware, on the argument of the case.

DEPOSITION OF WILLIAM JONES.

William Jones, being called and sworn on part of complainants, deposes and says:

Int. 1. What is your name, age, residence and occupation?

Ans. William Jones; forty-nine years of age; reside at Springfield, Massachusetts, and am a gun-smith, and have been so about thirty-three years.

Int. 2. Have you ever constructed guns with a steel charger, similar to those in the Jubal Harrington model, inserted at the breech of such guns; and if yea, when and where were the same made, and what was your employment at the time?

Ans. I have made them, about twenty-five years ago, at Springfield, Massachusetts; I worked for Cyrus B. Allen at the time; I was his foreman; they were single-barreled guns.

Int. 3. Did you try the experiment of firing those guns with the charges inserted in those steel charges? and if yea, state the result of those experiments particularly.

Ans. I did fire them; and the result was that some of them burst; if we fitted them loose enough, so that they would come out and in freely, they would burst; if they were fitted tight, there was a difficulty in getting them out after firing them.

Int. 4. About what proportion of those you fired burst?

Ans. As near as I can recollect, from one fourth to one third of them.

Int. 5. Was the manufacture of those guns continued or not; and if not, why not?

Ans. The manufacture of them was discontinued, because they were not salable, and not considered practical.

Int. 6. What is your present employment, and how long have you been engaged in that?

Ans. I am at work on pistols for Smith and Wesson; I have worked as a contractor, but they have now hired me as a superintendent of their works; I have been at work for them over two years and a half.

Int. 7. Look at the pistol marked exhibit I, and state whether it was made in Smith and Wesson's establishment, and is of their usual construction, except the notch in the cylinder.

Ans. It was made in their shop, and is of their usual style of construction.

Int. 8. As originally constructed, did the piece, which appears to have been broken off, extend out to the cock, as would the piece attached to said pistol by a string, if it were inserted in place of the broken pieces?

Ans. Ycs.

Int. 9. Did you see that pistol marked "I" fired with the usual copper cartridge inserted in the chamber which has the notch cut in it; and if yea, what was the effect of such firing upon the said piece, which now appears to have been broken?

Ans. I did; it burst the cartridge up through the notch in the cylinder, and blew off the piece.

Int. 10. Did you see that pistol fired with the ordinary copper cartridge, after the piece blew off; and if yea, about how many times?

Ans. I did; about six or eight times.

Int. 11. Look at the four copper cartridge shells attached to a string and marked Exhibit J, and state whether they were so fired from the chamber of said pistol which has the notch cut in it, and state what was the effect of so firing them, and what caused the holes in said shells.

Ans. They were fired from the cylinder with that notch in, and the result was, that they all burst; the holes in said shells were caused by the firing from that cylinder.

Int. 12. State whether any charge fired from that cylinder failed to burst the shell of the cartridge opposite the hole.

Ans. It did not fail.

Int. 13. Is it safe, in your judgment, to fire a pistol with a chamber having a notch like that; and would a pistol so constructed be of any practical value?

Ans. I shouldn't consider it safe to fire it with copper cartridges; it would not be of any practical value for firing the copper cartridges.

Int. 14. What was the relative force of the ball fired from that chamber, as compared with its force when using a similar cartridge, and firing from a chamber without the notch?

Ans. The penetration was about one-third.

Int. 15. Are you acquainted with the cost of manufacturing pistols having revolving cylinders?

Ans. I am.

Int. 16. About what is the relative cost for the labor merely of manufacturing a cylinder, like those made by Smith and Wesson, as compared with the cost of the labor merely of manufacturing a cylinder with shells like those shown in the Jubal Harrington exhibit?

Ans. I think the Smith and Wesson cylinder can be made for about one third the cost of the Harrington, including the shells.

Int. 17. What is the relative cost for the labor merely of manufacturing the steel shells in the Jubal Harrington exhibit, as compared with the cost of the labor of manufacturing the copper shell, including the labor of charging the same with powder and ball, ready to be fired?

Ans. I estimate the cost of the labor of making these steel shells between eight and nine cents apiece; the cost of the labor in making copper cartridges of the size of Exhibit F, including loading them with powder and ball, ready for use, at a dollar and twenty-two cents a thousand.

Cross-examined by Mr. Gifford, counsel for the defendants.

Cross-Int. 18. Do Smith and Wesson, for whom you work, manufacture copper cartridges, and have they a patent for them?

Ans. They do, and I believe they have a patent for it.

Cross-Int. 19. Are those the copper cartridges about which you have testified?

Ans. They are.

Cross-Int. 20. What, if any, are the peculiarities of those cartridges?

Ans. I can state what their patent is; it is the manner of distributing the priming in the flange; if the priming is distributed all over the base of the cartridge, it is liable to blow out; it consists of putting the priming all in the edge of the base of the cartridge.

Cross-Int. 21. Who is reputed to be the inventor of that peculiarity?

Ans. Smith and Wesson.

Cross-Int. 22. How long ago did they obtain a patent for that?

Ans. I think it is a year and a half, or two years.

Cross-Int. 23. Did you ever make any copper cartridges before you made the Smith and Wesson kind?

Ans. They are the first I ever saw or heard of.

Cross-Int. 24. What could be used successfully instead of the Smith and Wesson cartridge in the Smith and Wesson pistol?

Ans. There could be a number of substitutes, but I don't think of any thing in particular now; the Harrington shell could be used.

Cross-Int. 25. That Smith and Wesson cartridge is a very important thing, is it not, for arms loading at the rear?

Ans. I so considered it.

Cross-Int. 26. Do you think that the shell, if used in the Smith and Wesson pistol, would be as good as the Smith and Wesson cartridge?

Ans. I do not.

Cross-Int. 27. Would that difference be a fault of the pistol, or would it be owing to the superiority of the cartridge over the shell for such an arm?

Ans. I think it would be owing to the superiority of the cartridge.

Cross-Int. 28. The Smith and Wesson cartridges are in good and growing demand, are they not?

Ans. They are.

Cross-Int. 29. One of these cartridges in firing can be used only once; is that so?

Ans. They might be recharged — the shells.

Cross-Int. 30. Is that the practice?

Ans. It is not.

Cross-Int. 31. Why is it not the practice?

Ans. It is owing to the difficulty of collecting them, and they are manufactured so cheap there would be no object in doing it.

Cross-Int. 32. How is it about firing, so expanding the copper portion of the cartridge as to render it too large to hold a ball the second time?

Ans. I don't think there would be any difficulty in that; the edge of the cartridge is closed in by machinery.

Cross-Int. 33. In making those cartridges, how do you put the priming in the rim of the base and secure it there?

Ans. The priming is put in, and we have a machine which distributes it into the rim, and it is kept in place by a thick paper with a hole in the centre, and the paper is pressed down into the copper tube.

Cross-Int. 34. If the Smith and Wesson cartridge was not known, what would you use instead of it in the use of revolving cylinder pistols having their chambers bored through to be loaded in the rear?

Ans. I should prefer a Maynard shell.

Cross-Int. 35. Describe the Maynard shell.

Ans. It is made similar to the Smith and Wesson shell, except the flange, instead of there being a cavity it is solid, and there is a hole through the centre, and the fire communicates through that hole.

Cross-Int. 36. In the use of the Maynard shell, would it not require a cap put on a cone every time the arm was fired?

Ans. We could use the Maynard or Sharpe's priming, which are self-operating.

Cross-Int. 37. If you use the Maynard shells with holes in them, as you have mentioned, what would prevent the fire from communicating with the load in each chamber at every firing?

Ans. There would be a liability of the fire communicating to each chamber.

Cross-Int. 38. Would such a result be a good one or a bad one?

Ans. The result would be a bad one.

Cross-Int. 39. Would such a pistol, with no better cartridge or shell to be used in it than such as would all be ignited at every firing, be a valuable pistol?

Ans. No, sir.

Cross-Int. 40. In your examination in chief, the phrase "usual copper cartridge" was used; what copper cartridge did you mean by that?

Ans. I had reference to the Smith and Wesson cartridge.

Cross-Int. 41. How many single-barreled guns did you make for steel shells?

Ans. Well, there might have been from six to ten; can't state the exact number.

Cross-Int. 42. How many steel shells did you make, according to your best recollection, for those guns?

Ans. From ten to twelve, as near as I can recollect.

Cross-Int. 43. Those shells were intended to be reloaded, were they not?

Ans. They were.

Cross-Int. 44. You say in your examination in chief, that some of those shells burst; was such bursting the fault of the gun or the fault of the shell?

Ans. It was the fault of the shell.

Cross-Int. 45. Is it not an easy matter to make a short steel tube from which an ordinary load of a gun could be fired without bursting it?

Ans. It might, by making it heavy enough, and making it clumsy.

Cross-Int. 46. Would it need to be clumsy as well as heavy enough?

Ans. If it was heavy, it would, consequently, be larger and bulky.

Cross-Int. 47. How heavy would it have to be in order to be clumsy?

Ans. That is pretty hard to answer.

Cross-Int. 48. How thick would such a tube require to be to not burst in firing an ordinary gun-load?

Ans. I could n't state without experiment.

Cross-Int. 49. Can you state how thick it would have to be to fire an ordinary pistol-load without bursting?

Ans. I don't know that I can.

Cross-Int. 50. How thick did you make those shells which you say you made about twenty-five years ago, and out of what kind of steel?

Ans. I don't recollect the thickness nor the kind of steel.

Cross-Int. 51. Were percussion-caps in use at the time you made those steel shells?

Ans. They were.

Cross-Int. 52. How did you communicate the fire to the load in those shells?

Ans. By a common cap and common lock.

Cross-Int. 53. Was there a nipple fixed in the shell?

Ans. There was.

Cross-Int. 54. How was it fastened in the shell?

Ans. Screwed in.

Cross-Int. 55. Didn't it blow out the nipples when they fired?

Ans. I have no recollection of any blowing out.

Cross-Int. 56. When one of the shells was placed in the gun, how much space was there between the outside of the shell and the inside of the barrel?

Ans. I can't state.

Cross-Int. 57. Can't you give us some idea?

Ans. I cannot.

Cross-Int. 60. How much space do you think it would require between the outside of the shell and the inside of the barrel to enable you to get the shell into its place?

Ans. It would require but little.

Cross-Int. 61. How much do you mean?

Ans. If it was almost a perfect fit and both perfectly true, there would be no difficulty in getting it in, but after you fired it, there would be a difficulty in getting it out.

Cross-Int. 62. What do you think would cause the difficulty in getting it out?

Ans. The powder would blow in between the shell and the barrel.

Cross-Int. 63. Would that be from any fault or defect in the barrel?

Ans. That fault would be in there being a space between the shell and the barrel; if there is any space at all, the force of the powder would make it liable to drive it in between the barrel and cartridge.

Cross-Int. 64. May you not fit a steel tube to another larger tube, so that the small one may be pushed into the larger one, and have the outside of the small one in contact with the inside of the large one all around?

Ans. I could by making a perfect fit of it.

Cross-Int. 65. I that case, do you think the powder would blow between the tube?

Ans. If it was a perfect fit it would be to drive them together, so that the one fills the other.

Cross-Int. 66. I have noticed that in the Smith and Wesson pistol, there is a short metallic rod below and parallel with the barrel; what is that rod for?

Ans. It is for the convenience of getting out the shells, instead of picking them out with your fingers.

Cross-Int. 67. What causes the shell to stick?

Ans. It is the dirt inside.

Cross-Int. 68. The powder blowing back, do you mean to say?

Ans. The powder is not liable to blow back because the shell expands; the cause of the sticking, which is slight, is that the balls are tallowed, and they are liable to stick up the cylinder.

Cross-Int. 69. These copper shells do not generally burst, do they, on firing them?

Ans. I think not.

Cross-Int. 70. Why not, what prevents it?

Ans. I suppose it is the strength of the copper and the good workmanship of the pistol which holds it in its place.

Cross-Int. 71. Would the copper shell burst if one of the cartridges were fired without being surrounded by the chamber of the cylinder or some substitute?

Ans. I don't see how you could hold it to fire it, unless you supported it in some way.

Cross-Int. 72. Could you not lay one down upon a board or stone, and ignite it, without having it surrounded by any protection?

Ans. It could be done by having a hole to communicate fire to it.

Cross-Int. 73. In such case would the copper shell burst?

Ans. As there would be no resistance to the escape of the ball, consequently the shell would not burst.

Cross-Int. 74. How would the powder blow it then?

Ans. By the ball leaving the shell.

Cross-Int. 75. Would the same be the case if the shell was made of steel instead of copper?

Ans. I think the result would be no resistance to the escape of the ball.

Cross-Int. 76. In answer to the sixteenth interrogatory in chief, you say you think that a pistol cylinder like those made by Smith and Wesson would cost two-thirds less in labor than a cylinder made like Exhibit "Jubal Harrington," including in the latter the steel tubes or charges; be kind enough to specify in detail in what you think the saving of labor would consist.

Ans. In the first place, the Harrington cylinder would cost more to make, than the Wesson cylinder, and then there are the steel cartridges and cones in addition.

Cross-Int. 77. Why do you think the Harrington cylinder would cost more in labor than the Smith and Wesson cylinder?

Ans. The addition of the steel cartridges and cones.

Cross-Int. 78. I am asking you about the cost of the cylinder, and desire an answer without reference to the shells and cones?

Ans. There would not be much difference; I think they would be about the same expense.

Cross-Int. 79. In your answer to the 76th cross-interrogatory, you state that the Harrington cylinder would cost more to make than the Smith and Wesson cylinder; why did you give such an answer?

Ans. I had reference to the cylinder before me, on the table, which is not the Harrington cylinder.

Cross-Int. 80. Then you was making a comparison with the wrong cylinder—were you not?

Ans. I was, as regards the cylinder.

Cross-Int. 81. Why did you not take the precaution to know what you was speaking of before testifying?

Ans. The pistol I had was the only one that was given me, and I supposed that was the Harrington cylinder.

Cross-Int. 82. Was you as careful about that as you have been about the other parts of your testimony?

Ans. I supposed I had the right pistol, and didn't suppose there was any negligence on my part.

Cross-Int. 83. Do you consider that suppositions are sufficient to found statements under oath upon?

Ans. I do not.

Cross-Int. 84. Please, on hearing the 76th cross-interrogatory, read by the Examiner, give an answer to it.

Ans. In the first place, you have got to leave the Harrington cylinder large enough to get those projections upon it, at the rear of the cylinder; the expenses of the cylinder otherwise, I think, would be about the same.

Cross-Int. 85. You mean by "projections," in your last answer, I suppose, the catches that are on the periphery of the rear end of the cylinder, between the nipple-spaces; am I right?

Ans. I do.

Cross-Int. 86. Is there not in the Smith and Wesson cylinder a ratchet, projecting from one end of the cylinder?

Ans. There is.

Cross-Int. 87. What is the use or object of that ratchet?

Ans. For the purpose of revolving the cylinder.

Cross-Int. 88. What is the use of the projections or catches on the periphery of the rear end of the Harrington cylinder?

Ans. I suppose for the purpose of making a stop to the cylinder?

Cross-Int. 89. Have you examined it particularly, and do you swear that those projections are for the purpose of making a stop? and if you do, then explain particularly how they make a stop to that cylinder.

Ans. I have examined it, and think that that is what they are for—to make a stop; the cylinder revolves around, against a little bolt, and it stops.

Cross-Int. 90. Is there any arrangement for making a stop to the Smith and Wesson cylinder, and what is it?

Ans. Yes; notches cut in the cylinder, and a stop that drops into them.

Cross-Int. 91. Do you think that it would require much skill to cut notches in the outside of a cylinder, as in Smith and Wesson's, of leaving projections, as in the Harrington cylinder, to make a stop?

Ans. In the Smith and Wesson it would not require much skill; it would require more skill to make those projections, than it would to make the notches.

Cross-Int. 92. Then, in making the cylinder, a mechanic might as well make the notches, as to leave the projections—might he not?

Ans. Yes; he might as well make the notches, as leave the projections; it would make less work.

WILLIAM JONES.

Subscribed and sworn to before me, this 12th June, 1862.

R. E. STILWELL, *Examiner, etc.*

DEPOSITION OF CARLYLE A. FISK.

Carlyle A. Fisk, being called and sworn on part of complainants, deposes and says :

Int. 1. What is your name, age, residence, and occupation ?

Ans. Carlyle A. Fisk ; fifty-two years of age ; reside at Springfield, Massachusetts, and am a gunsmith.

Int. 2. Did you ever see, and if yea, when first, and where, a cylinder having a ratchet upon one end, the chambers bored entirely through, like Exhibit E ?

Ans. I couldn't define the month particularly, but some time in the latter part of 1849, or the very fore part of 1850, I was at Colt's shop in Hartford, and while there I saw Mr. Rollin White to work on a cylinder, and it was similar in its form to this ; I couldn't swear it was the same size. I made the remark at the time, the design must be, I thought, to shoot both ways, but Mr. White didn't seem inclined to say much about it to me. He did make some remark to the gentleman that was with me, asking him what he thought of a cylinder of that form.

C. A. FISK.

Subscribed and sworn to before me, this 12th June, 1862.

R. E. STILWELL, *Examiner, etc.*

DEPOSITION OF JOSEPH W. STORRS.

Joseph W. Storrs, being called and sworn on part of complainants, deposes and says :

Int. 1. What is your name, age, residence, and occupation ?

Ans. Joseph W. Storrs ; thirty-six years of age ; reside in Brooklyn, and am engaged in selling pistols and rifles.

Int. 2. State how long you have been engaged in selling pistols in the city of New York.

Ans. Since first of February, 1858.

Int. 3. Prior to that time, had you any connection with the sale of fire-arms, and if so, in what way?

Ans. I sold the Volcanic Fire-Arm, so called, for most of three years; travelled with samples through the country.

Int. 4. State whether, when so engaged, you were brought in contact with venders and manufacturers of fire-arms, and if yea, whether extensively or otherwise.

Ans. I was brought in contact with them almost every day. My business was with them altogether, more particularly with the venders.

Ans. 5. Have you sold the Smith and Wesson repeating pistols, having the chambers entirely bored through the cylinder, and if yea, when did you first begin the sale of such pistols?

Ans. I have sold them, and commenced the sale, I think, the first one in January, 1858.

Int. 6. Prior to that time, had you seen in market, or on sale anywhere, repeating pistols having the chambers bored entirely through the cylinder?

Ans. I had not. I had seen one of Smith and Wesson's prior to that time, but none on sale.

Int. 7. Since you commenced the sale of Smith and Wesson's pistols, state whether the sale of them has increased, and if yea, to what extent about.

Ans. It has been constantly increasing since they first came into market; all they could produce, until very lately.

Int. 8. What has been about the extent of your sale of such pistols since you commenced?

Ans. Well, I can't answer positively. I should think the sale of pistols and cartridges together not less than five hundred thousand dollars. Can't tell without examining my books.

Int. 9. About how long after you commenced the sale of the Smith and Wesson pistols, were pistols made by other manufacturers, on the

same general plan, introduced into the market? State the name of the manufacturers and about what time they were introduced.

Ans. I should think Allen and Wheelock introduced a pistol on the same plan, about one year after. Then others followed. My impression is, Bacon followed, then the Manhattan Company, and I think the Union Arms Company came next, then Prescott, next Pond, then a few more I don't recollect now.

Int. 10. Prior to the breaking out of the war, about what proportion of the repeating pistols sold in the market were made with breech entirely bored through?

Ans. I was under the impression that a greater part of the pistols sold were of that kind, breech bored through. I judged from the demand I had for them, and the rapidity with which they were coming into the market.

Cross-examined by Mr. Gifford, counsel for defendants.

Cross-Int. 11. Are you the exclusive agent for the sale of both pistols and cartridges manufactured by Smith and Wesson?

Ans. I am not.

Cross-Int. 12. What other agents have they for the sale of those articles?

Ans. I don't know that they have any other now.

Cross-Int. 13. Are you the agent for the sale of their cartridges?

Ans. The same as for the pistols.

Cross-Int. 14. Is the demand large for the cartridges?

Ans. It is.

Cross-Int. 15. In your examination in chief, you have spoken of manufactured pistols on the same general plan as the Smith and Wesson pistol; do you mean, by the same general plan, the cylinders being bored through? If you mean any thing more, please specify.

Ans. That is all I had reference to.

JOSEPH W. STORRS.

Subscribed and sworn to before me, this 12th June, 1862.

R. E. STILWELL, *Examiner, etc.*

Adjourned to 12 m. the 13th inst.

DEPOSITION OF CLARENDON WHELOCK.

FRIDAY, June 13th, 1862.

Counsel on both sides present.

Clarendon Wheelock, being called and sworn on part of complainants, deposes and says :

Int. 1. What is your name, age, residence and occupation ?

Ans. Clarendon Wheelock ; fifty-eight years of age ; live at Worcester, Mass., and am a mechanic.

Int. 2. Are you acquainted with Jubal Harrington, formerly of Worcester, Mass. ? and if yea, state how long you have known him, and whether your acquaintance with him was intimate.

Ans. I have known him even from childhood ; he is a little older than I am ; we were intimate in school, and was always as intimate as any persons could be ; our last meeting was as pleasant as our first.

Int. 3. When did you go to Mexico, and when did you return ?

Ans. I sailed from here the 31st of March, 1842 ; I returned early in the year 1844 ; the precise time I don't recollect.

Int. 4. Prior to your leaving for Mexico, was Jubal Harrington absent from Worcester ; and if so, for how long a time, and had he returned before you sailed for Mexico ?

Ans. He had been absent for about three years, and returned in a very short time after I left, as I learned by a letter that my wife wrote me.

Int. 5. When you returned to Worcester, in 1844, did you meet Jubal Harrington in Worcester ?

Ans. I did.

Int. 6. After your return, in 1844, did Jubal Harrington consult with you in reference to some improvement in repeating fire-arms, which he was then inventing or getting up ? and if yea, state what such improvement was.

Ans. He did ; it was to endeavor to combine the direct advantages of Colt's and of Allen's into one arm ; it was a muzzle loaded like

Allen's, and the nipple's as in Colt's; self-cocking like Allen's, and to bring the whole machinery within the curve of the breech.

Int. 7. Did Jubal Harrington's said improvement have, or propose to have, a rotating breech, with a series of parallel chambers bored entirely through, combined with a single band, so that the chambers could in succession be brought in a line with the barrel, to be fired?

[*Objected to.*]

Ans. No.

Int. 8. Did Jubal Harrington, at any time, tell you that he had invented or made a repeating pistol, or gun, with the chamber bored entirely through, that the charges might or could be inserted through the rear end?

[*Objected to as leading and calling for hearsay.*]

Ans. He never exchanged a word with me upon the subject; the other one I have described, was the one his attention was on then; and he never spoke to me about any other arm.

Int. 9. Was Jubal Harrington in the habit of consulting with you in relation to his inventions? and state generally the character of your intimacy with him.

Ans. He was; he not being a practical mechanic himself, with his mechanical ideas, he would come to me to mature them; frequent consultations were had upon some that he got; some of which were very visionary, and very frequently exploded.

CLARENDON WHEELLOCK.

Subscribed and sworn to before me, this 13th June, 1862.

R. E. STILWELL, *Examiner, etc.*

DEPOSITION OF EDW'D S. RENWICK.

Edward S. Renwick, being called as a witness on the part of the complainant, deposes and says as follows :

Int. 1. What is your name, age, residence, and occupation ?

Ans. Edward S. Renwick ; thirty-nine years of age ; reside in the city of New York, and am engaged in soliciting patents in the United States and foreign countries, and in acting as expert in patent cases, in the United States Courts.

Int. 2. In the course of your professional business, have you had occasion, to any extent, and if so, to about what extent, to examine into the state of the art connected with fire-arms ?

Ans. I have frequently had occasion to examine into the state of the art in the manufactory of fire-arms, and have made examinations of the accounts of fire-arms contained in the English patents, the official publication of the French patents, various scientific works, and the records of the American Patent Office.

Int. 3. Have you examined Letters Patent granted to Rollin White for improvements in fire-arms, bearing date April 3d, 1855 ? and if yea, state whether you understand the invention therein described, and whether the description and drawings are sufficient to enable a skilled armorer to construct and use the same.

Ans. I have carefully examined the patent mentioned in question, and believe that I understand the invention therein described ; in my opinion, the description and drawings of the patent are sufficient to enable a skillful armorer to construct and use the invention therein described.

Int. 4. Have you made any experiments, and if so, when and where, with a pistol constructed on the plan of the first part of the invention described in said Rollin White patent, and if so, state fully what such experiments were, and the results thereof ?

Ans. I had a pistol tried in my presence upon the 8th of July last, which was constructed according to the first part of the invention set forth in said White's patent ; in the first experiment, four of the cham-

bers of the rotating cylinder were loaded with loose powder and ball, and, a leather shoe perforated at the centre with a small hole (such as the one marked Exhibit L) was placed over the powder in each chamber; a fifth chamber was loaded with what is commonly called a volcanic cartridge, by which I mean an elongated ball having a socket in its butt, in which the powder and primer are placed (such as in the one marked Exhibit M); the four chambers loaded with loose powder were fired by means of the ordinary percussion-caps placed upon a nipple; the volcanic cartridge was fired by means of a pin, which being struck by the hammer of the pistol, exploded the primer of the cartridge; in this experiment, the whole five charges were fired in succession, without the fire communicating from one charge to any of the others. I had the same pistol tried with cartridges made of greased paper, and with a leather shoe at the butt, (such as the one marked Exhibit N,) and with the same result; I had the same pistol tried with metallic cartridges with a perforated India-rubber shoe, (such as the one marked Exhibit O,) and with the same result; I then had a six-chamber rotating cylinder pistol made according to the first part of White's invention, as set forth in said White's patent, charged with the following load, viz:

1. A Marston cartridge of greased paper, with a leather shoe, marked Exhibit N. 1.
2. A Smith and Wesson metallic cartridge, such as Exhibit P, but shorter.
3. A wooden cartridge, with a perforated butt, such as Exhibit Q.
4. A metallic cartridge, with a perforated India-rubber shoe, such as Exhibit O.
5. A loaded ball, with a copper capsule, perforated at the butt, such as Exhibit R.
6. A loaded ball, with a perforated cork shoe, such as Exhibit S.

All of the charges were fired in succession, without the communication of fire from one charge to any of the others.

I had the same pistol loaded with Nos. 2, 3, 5, and 6, and a metallic cartridge with a pasteboard shoe, such as Exhibit T, in place of No. 4 of the previous load. The result was the same as before.

I had the same pistol tried with paper cartridges, having lead shoes

at the butt; the shoes in one case being perforated like Exhibit U; and in the other case the butt of the cartridge was solid, and a percussion priming tube was inserted in it, such as Exhibit V, and with the same result.

I had the same pistol loaded with loose powder and ball, and a percussion capsule inserted behind the powder, such as Exhibit W. The pistol was satisfactorily fired as before.

I then had a pistol constructed according to the first part of the White invention, set forth in said patent, and of the pattern commonly known as the Smith and Wesson pistol, which pistol is marked Exhibit Y, tried with two metallic cartridges, with perforated butts, for the purpose of seeing whether the fire would communicate from one to the other. The fire did not communicate. One of the cartridge-cases which was so fired is marked Exhibit X.

I had the same pistol tried with a metallic cartridge, with a hole in the butt, such as Exhibit X, and with a piece of paper placed over the hole, to test the effect of the discharge through the hole when the cartridge was fired. The paper was perforated with a small hole by the discharge, and was very slightly soiled by smoke.

Int. 5. Where have you found descriptions of the several cartridges, or any of them, and which, and modes of charging, described in your last answer, (if you have found them described,) and if you say that you find some of them described, say where?

Ans. I find the manner of loading the chamber with loose powder and ball, and with a perforated leather shoe over the powder, described in the printed testimony of Rollin White, in this case, in the answer to the 40th direct question.

I found the description of the volcanic cartridge in the English patent, granted to Stephen Taylor, A. D. 1847, No. 1194. This patent states, among other things, as follows: "To facilitate the discharge, gun-cotton, or other combustible or explosive matter, may extend from the powder in the ball through the said hole, the better to insure the communication of fire from the priming." I found the cartridge with a lead shoe, and with a priming tube, described in the English patent of Heurteleup, A. D. 1834, No. 6611.

I found a paper cartridge, with a perforated leather shoe, such as the Marston cartridge, described in the English patent of Stephen Taylor, A. D. 1852. No. 14,289. This patent states, among other things, that the cartridge "may be used with any other gun that loads at the breech." It also states that the shell may be made of paper, or metal, or other substance; also, that the powder is kept from running out the hole in the shoe by a piece of fine tissue-paper, or similar substance, that will not obstruct the detonation from the cap reaching the powder.

I found a cartridge like the Heurteleup cartridge, but with a shoe of pasteboard, described in the publication of the French patent of Renette, No. 4411, dated 15th May, 1835; a translation of which is found in the printed record, in this case, on page 76; the drawing accompanying the French description shows the cartridge. I found the cartridge like Heurteleup, also described in the publication of the French patent to Lepage Brothers, No. 5468, dated July 13, 1832.

I found a capsule-cartridge with a primer within it, to be exploded by a pin, which is struck by the hammer of the fire-arm described in the publication of the French patent to Houllier, No. 1963, dated April 7th, 1846, and a description of a similar cartridge in the publication of the French patent to Chaudun, No. 3601, dated December 9th, 1847.

I found a description of a loaded ball, with a copper capsule perforated at the butt, in the publication of the French patent to Palmer, No. 3946, dated October 25th, 1848. A certificate of addition to this patent describe wood cartridges perforated at the ball, like Exhibit Q. Also cartridges made of dried sheep's gut, closed at the butt with a perforated disk of cork.

Int. 6. Will you state whether any or all the cartridges, and modes of charging referred to in your last answer, are safely applicable to pistols constructed on the plan of the first part of the invention, in the said patent of Rollin White?

Ans. They all are.

Int. 7. What is the object of making the chambers smaller at the front than at the rear-end, in a pistol consisting of a many-chambered rotating breech, in combination with a fixed barrel, as described in the first part of said patent of Rollin White, in which the cylinder has to

be rotated to bring in succession the several chambers of the cylinder in line with the barrel to be fired?

Ans. It prevents the balls from being moved so far forward in the chambers, that their front-ends would project beyond the front-end of the cylinder, and impede or prevent the rotation of the cylinder.

Int. 8. Do you know of any way, and if so, what, in which the cartridge itself can be so formed as to answer the same purpose as that named in your last answer, when the chambers of the cylinder are bored entirely through, of an equal diameter?

Ans. I do; cartridges may be made with a flange at the butt, like Exhibit P, or like the cartridge that is used with the Maynard gun.

Int. 9. Look at the pistol marked, "Complainants' Model, June 6th, 1862," stamped on the barrel, "Manhattan Fire-Arms Company, New-York," and state whether it be substantially like or substantially different from what is described in the said patent of Rollin White, as the first part of his invention, and give your reasons for any opinion you may express on the subject.

Ans. I have examined the pistol referred to in the question. In my opinion it embodies substantially the first part of the invention of Rollin White, as set forth in his said patent, because it has a rotating cylinder with a series of chambers, for the purpose of holding charges and placing them in succession opposite the butt of a stationary barrel, through which all the charges are fired, and the chambers are extended right through the rear of said cylinder, for the purpose of enabling the said chambers to be charged at the rear by hand.

Int. 10. Are you acquainted with Letters Patent granted to Samuel Colt on the twenty-fifth day of February, 1836, found in the printed record in this case at folios 352 to 376? and if yea, state whether you find in said patent the first part of the invention described in the said patent of Rollin White, and if not, why not.

Ans. I am familiar with the said Colt patent. The first part of the invention of said White is not described in the said Colt patent. The fire-arms described in the said patent have cylinders, the chambers of which are not extended through the rear of said cylinders for the purpose of enabling said cylinders to be charged at the rear, but, on the

contrary, the chambers are so constructed that they must of necessity be charged from the front-ends of the cylinders.

Int. 11. Are you acquainted with the French patent granted on the fifteenth of May, 1835, to Alfred Henry Renette, the translation of which will be found in the printed record of this case from folios 291 to 295? and if yea, state whether you find therein described or represented the invention described in the said Rollin White's patent, claimed therein as the first part of his invention.

Ans. I am acquainted with the publication of the Renette patent referred to in the question, and the translation thereof. I do not find the first part of the said White invention described therein. The Renette patent does not describe or represent a rotating cylinder of any kind for fire-arms.

Int. 12. Are you acquainted with the French patent granted September 29th, 1840, to Joseph Jarre, Jr., the translation of which may be found in the record in this case at folios 295 to 298? and if yea, state whether you find therein described or represented the invention which you find described in said patent of Rollin White under the head of the first part of his said invention.

Ans. I am acquainted with the publication of the said French patent, and with the translation thereof. I do not find the first part of the said White invention described or represented therein. The Jarre patent does not describe or represent a rotating cylinder of any kind for fire-arms.

Int. 13. Are you acquainted with the French patent granted May 2d, 1845, to Lefauchaux, and the several certificates of additional improvements, the translation of which may be found in the record in this case at folios 298 to 351? and if yea, state, if you please, if you find therein described or represented the invention described in the said Rollin White's patent under the head of the first part of his invention.

Ans. I am acquainted with the publication of the French patent and the certificates of additional improvements thereto referred to in the question, and with the said translations thereof. I do not find in them either a description or a representation of the first part of the said

White invention. The fire-arms described in the said French patent and certificate of addition may be divided into two classes. In one class a single barrel is used, and is arranged to turn upon a pin or shaft parallel with the bore of the barrel, so that it may be turned out of line with a stationary breech-piece, in order to permit the barrel to be loaded at the rear, and then turned back again into a position for firing.

In the other class there are a series of barrels, all bored out of one block of metal, and all of the proper length to give direction to the ball in firing. This block of barrels is secured by means of a long pin passing through a perforation in the centre of the block to a breech-plate of a disk form, which revolves with the barrels. The long pin has a screw-formed head at the end of it, by means of which the block of barrels is confined to the disk-formed breech-plate. Exhibit Z is a representation in wood of a pistol of this class.

A rotating chamber-cylinder, to be used in connection with a single stationary barrel, through which all the charges of the cylinder can be fired in succession, is not described or represented in the said Lefauchaux patent, or any of the certificates of additional improvements thereto.

Int. 14. Look at the pistol marked "Jubal Harrington," and state whether, in your opinion, in 1842, such a pistol could have been a useful improvement, in the state of the art as then known.

Ans. I have examined the pistol referred to in the question. In my opinion such a pistol is inferior in utility to the Colt pistol, which was well known at that date, both on account of the cost of making it and because the Colt pistol could have been charged with greater ease than the Harrington pistol. In examining the Harrington pistol, I observe that the bore of the shells in the breech, in which the balls are to be placed, is smaller than the bore of the barrel. A pistol constructed in this manner would be practically useless, as the ball could not be directed with any certainty, and the windage would permit so much of the force of the powder to escape that the penetration of the ball would be materially diminished.

Int. 15. Will you produce the pistol with which were fired the car-

tridges or charges Exhibits L, M, and N, and O, referred to in your answer to the 4th question.

Ans. I produce it, and it is marked Ex. C 1.

Int. 16. Will you produce the pistol with which were used the exhibits named in the latter portion of your answer to the 4th question, marked Exhibits N 1, P, Q, O, R, S, T, U, V, and W?

Ans. I produce it, and it is marked Exhibit D 1.

Int. 17. Look at the pistol, Exhibit A, 1, and state whether it is constructed substantially like, or substantially different from the manner of construction described and represented in the Rollin White patent, April 3, 1855, so far as regards the first part of the invention, including the breech-piece *p*, and shield D, and irrespective of the self charger, and the guard plate in front of the cylinder.

Ans. I have examined the exhibit mentioned in the question. It is constructed substantially in the manner described and represented in the said Rollin White patent, mentioned in the question, so far as respects the first part of the invention set forth in the patent, and the breech-piece *p*; that is to say, the exhibit has a cylinder of chambers, with the chambers extended directly through the cylinder, for the purpose of enabling the said chambers to be charged at the rear. There is also in said exhibit, a fixed breech-piece arranged opposite the barrel behind the cylinder, to serve as a breech to that chamber which happens to be in line with the barrel. The breech-piece in the exhibit agrees with the breech-piece *p*, represented in the drawing, in the respect that it is behind that chamber which happens to be in line with the barrel, and is too small to extend behind to cover the other chambers; thus, in the drawing, at figure 1, the breech-piece *p* is shown so small that it does not extend below the pin *a*¹ sufficiently to cover the chambers below the level of the axis of the pin. In the drawing, figure 2, the breech-piece is not seen, there being an open space between the back of the cylinder and the part of the recoil-shield to which the letter D is applied in that figure. There is also a similar open space on the opposite side of the pin A, between the back of the cylinder and the recoil-shield, and in this space, the front end of the charging piston G is shown projecting, and it is clear that if the recoil-shield extended laterally so as to cover

the chambers on the side of the pin A^1 , at which the charging piston is placed, this charging piston would have to pass through an opening in such extended breech-piece; and such extended breech-piece would cover the end of the charging piston, so that it could not be seen as it is shown in fig. 2. Figure 4 is stated to be a transverse section taken in the line xx , figs. 1 and 2, looking from the back towards the muzzle; and it shows that the breech-piece does not extend laterally, so as to cover the chambers upon the right and left of the one which happens to be in the line of the barrel. In that figure, the outline of the guard B , in front of the cylinder, which, as shown at figure 2, is of larger diameter than the cylinder A , is represented by the exterior circular line on the right side of the pin. The outline of the cylinder on the right hand side of the pin " a ", is represented by the circular line concentric with the first circular line I have mentioned, and just inside of it; while the outline of the recoil-shield is shown by the line of the shape of the half figure 8. Thus showing that the chamber to the right hand side of the pin is entirely uncovered by the breech-piece " p ." Figure 4 also shows a small piece of the cylinder above the magazine on the left hand side of the centre pin " a ." Thus agreeing with figure 2, in the respect that the breech-piece " p " is not extended to the left hand side sufficiently to cover the chambers and the charging piston " G ," which are on the left hand side of the centre pin. In examining figure 2, it must be borne in mind that that figure represents the cock as drawn back, whereby the charging piston " G " is projected forward, so that its front end would be exactly in the position in which it is shown in that figure.

Int. 18. Look at the pistol marked Exhibit White Pistol, No. 1, N. Austin Parks, Examiner, and state whether the cylinder of chambers, the breech-piece, the guard-plate in front of the cylinder, and the relation of the chambers to each other and to the shield-piece and guard-plate, are constructed substantially like, or substantially different from the mode of construction described and represented in the Rollin White patent of April 3d. 1855.

Ans. So far as respects the fact that the cylinder has the chambers bored entirely through it for the purpose of enabling the said chambers

to be charged at the rear, the cylinder of the Exhibit is substantially the same as the cylinder described in the Rollin White patent. The breech-piece in the Exhibit differs from the breech-piece described and represented in the Rollin White patent in the respect that it extends to the right and to the left of the centre pin so as to cover one lateral chamber completely and two others in part. Moreover the breech-piece in the drawings of the White patent is shown as fitting snugly against the butt of the cylinder so that if a cartridge with a hole in the butt was used, the seam between the breech-piece and the butt of the cylinder would not permit fire to extend laterally in case any fire should tend so to extend; while the seam in the exhibit, between the breech-piece and the butt of the cylinder is made sufficiently wide to permit fire to extend laterally in case it should tend to do so. The relationship, therefore, between the breech-piece and the cylinder in the Exhibit is different from that existing between the same two parts in the pistol represented in the White patent, and in case the pistol be used with a cartridge which would discharge fire laterally at the butt, the close fitting of the breech-piece would prevent the fire from extending laterally, while an open seam between the breech-piece and the cylinder might permit the fire to extend laterally to the other charges. The guard "B" is shown in the drawings of the White patent with the recess "c" extending sufficiently to cover the front ends of the four chambers which are not in line with the barrel, so that the balls from these chambers, in case of an explosion, would be received within the said recess. In the exhibit, the chambers are bored so closely to each other that one more chamber is obtained than is shown in the drawing of the White patent, and the recess in the guard-plate is not of sufficient size to receive the balls from the chambers which are immediately to the right and left, on each side of the one that is in line with the barrel. The chambers to the left being almost entirely covered by a flat plate, the effect of which would be to prevent the ball in that chamber from escaping out of it in case of explosion; and if the rear end of the chamber were stopped up by the shoe of the cartridge, the gas from the powder or fire, being prevented from escaping at the front end by the stoppage of the bullet by the plate, would act

through the bullet upon that plate and tend to blow off the guard and the barrel.

Int. 19. In making cartridges with the hole in the rear end to receive the fire, such cartridges to be fired in a pistol constructed on the plan described in the Rollin White patent, would you make the hole in such cartridges larger or smaller than the size of the grains of the powder used in charging the cartridges? and give the reason for any opinion you may express on this subject.

Ans. I would make the cartridges either with the hole so small that it would not permit the grains of powder to run out of it, or if compelled to use so fine powder that it would run out the smallest hole which could be made in the butt of the cartridge, in order that the fire might pass through with certainty, I would construct the cartridge as described in the English patent of Stephen Taylor, A. D., 1852, No. 14,289, referred to in my answer to the fifth question, with a piece of fine tissue paper, or similar substance, that will not obstruct the detonation from the cap reaching the powder to keep the powder from running out the hole. I would construct the cartridge in either of these two ways, because if the hole were large enough to permit the powder to pass through it, the shaking of the cartridge, by carrying it, would work out the powder unless this was stopped by tissue paper or some similar substance, and besides some of the fine powder lodging in the hole would increase the risk of the explosion of the charges in the side chambers by the firing of the charge in the chambers opposite the barrel.

Int. 20. Look at copy of the certificate of addition to the Lefauchaux patent of May 2d, 1845, bearing date February 7, 1846, and marked Charles Folsom, No. 2, on the margin, and state what is the nature of the invention therein specified.

Ans. I have examined the copy mentioned in the question. The nature of the invention therein specified is the connection of the entire set of barrels of a many-barreled fire-arm, in such manner that they are secured by one simple screw, which retains the whole of them upon the axis around which they revolve, in contradistinction to the system of construction referred to in the certificate, as existing previously to the invention in which each barrel was separately screwed fast to the

breech-piece. The advantage resulting from the new construction being set forth as consisting in this, that it is only necessary to unscrew a single screw in order to dismount all the barrels, while in the old system it was necessary to unscrew as many times as there were barrels in the fire-arms.

Int. 21. Look at the paragraph next preceding the last in the translation made by Charles Folsom of the certificate of addition, referred to in your last answer, and state whether it is a correct translation of the said certificate of addition.

Ans. Whether it be correct, or incorrect, depends upon the construction which is placed upon the words "breech-loading fire-arms" in that translation. If those words be construed to mean such fire-arms as are open at the rear, so that the charge can be inserted back foremost by pushing it forward in the fire-arm, then the translation may be considered correct. But if those words be construed to comprehend — as I consider their plain import is — not only the class of fire-arms I have mentioned, but all fire-arms which are loaded at the breech-end of the barrel, by placing the charge, powder foremost, in a movable chamber, and pushing the charge backwards in said chamber, then the translation is incorrect. I may state that, in the course of frequent examination of French descriptions of fire-arms, both in French patents and in treatises on the subject, I have always found the French words "*se chargeant par la culasse*" applied to the first class of fire-arms I have mentioned in this answer, and not to some of the others, and I consider that the translation of these words, by the English words "breech-loading fire-arms," is incorrect, as these English words comprehend a class of fire-arms which are not comprehended by the French words.

Int. 22. How would you translate the French words you have quoted in your last answer?

Ans. I would have translated them by the words "loading at the breech."

Int. 23. Do you understand that passage in the certificate of addition, referred to in your previous answers, as including that class of repeating fire-arms generally known as the Colt revolver?

Ans. I do not.

Int. 24. Give the reasons for your last answer.

Ans. My reasons are, first, that I have never seen the French words, *se chargeant par la culasse*, applied to fire-arms having a revolving cylinder breech like Colt's, unless it was arranged to load as White's pistols load. Second, that I have lately examined a number of French patents for improvements in this class of fire-arms, and have noted that those words are not used in the description, but that the classes designated by the term "*pistolet revoltee*," or by the term "revolver." Third, that among these French patents I have examined one granted to Lefauchaux, dated the 15th of April, 1854, and numbered 10,831, in which the improvement set forth consists in the change of what is substantially a Colt pistol so as to correct it into a fire-arm which can be loaded in the manner described in the Lefauchaux patent of May 2d, 1845, which is referred to in the published account of the later patent. The patentee of the later patent states that he is the son of Lefauchaux, who took out the patent of May 2d, 1845, and the certificate of addition thereto, states what the earlier invention consisted in, and that the improvement consists in substance in so modifying fire-arms with a revolving chamber cylinder, and a single barrel, that Lefauchaux cartridges could be used in them, whereas previously this class of fire-arms had to be loaded at front end of the cylinder.

[*Mr. Browne, counsel for defendants, seasonably interposed his objection to the answer from the words, "Second, that I have lately examined a number, etc."*]

Int. 25. Have you examined, in the 48th volume of the French work entitled "*Brevet d' inventions*," the description of a patent granted to Lefauchaux, in October 29, 1834? and state if you find therein the expression "*se chargeant par la culasse*," as descriptive of the kind of arm therein described, and state generally what kind of arm you find therein described, and how the same is to be loaded.

Ans. I have examined the patent referred to in the question, in the public work therein mentioned. I found the French words, stated in the question, used in the patent, as descriptive of the fire-arm therein described. The fire-arm therein described is one in which the barrel is

moved from a stationary breech-piece in order to permit the charge to be inserted in to the rear end of the barrel by pushing the charge forwards, ball foremost.

Int. 26. Have you, and if yea, will you produce and put in evidence a copy of the description of the French patent granted to Lefauchaux, 15 April, 1854, referred to in your answer to the 24th question?

[*Objected to.*]

Ans. I have a copy which I now produce, and which I have compared with the original, and which I believe to be correct, and which is marked Exhibit E, 1.

Int. 27. Do you find in the Lefauchaux description, Exhibit E, 1, the word "*culasse*"? and if yea, to what part of the arm is it applied.

Ans. I find the word "*culasse*" in the Exhibit. It is therein applied to the part E in the drawings, which is called generally in this country "the recoil-shield."

Int. 28. Is the invention described in the Lefauchaux patent, Exhibit E, 1, substantially like or substantially different from that described in the Rollin White patent as constituting the first part of the invention?

[*Objected to for substance.*]

Ans. One part of the invention described in said Lefauchaux patent is substantially the same.

Adjourned to 10, A. M., the 23d inst.

THURSDAY, April 23d, 1863.

Present, counsel for the respective parties.

Int. 29. Please state whether you have had any, and what acquaintance, with the French language, and what, if any, degree of familiarity you have had with it.

Ans. I was taught French when a boy, and I have had occasion to read French continually in the course of my business. I have also been called upon frequently to translate French descriptions of machinery of various kinds.

Int. 30. Will you annex to your deposition a copy of a translation

of the specification of the French patent to Lefauchaux, dated April 15, 1854?

Ans. I will, and will mark it Exhibit E. S. Renwick; and the same is annexed.

Cross-Examined by Mr. Causten Browne, counsel for defendants.

Cross-Int. 1. Is the rear end of the chamber just on the left hand of the line of discharge left unclosed by the form of the breech-plate for the purpose of permitting the insertion of charges by the automatic charger? I refer now to the specification and drawings of the White patent.

Ans. I do not understand that that is the only purpose for which it is left open; it is undoubtedly one of the purposes, because if it were not left open the automatic charger could not operate.

Cross-Int. 2. In your answer to the 18th Interrogatory, you say "that the breech-piece in the White patent is shown fitting snugly against the butt of the cylinder so that no seam is left sufficient for the lateral escape of explosive gas or fire between the two; and that in the Exhibit marked White pistol No. 1, a sufficient seam is left to permit such lateral escape." Is it possible even with the space between the breech and the butt of the cylinder, such as is shown in the last named model to revolve and successively discharge cartridges having flanges like the Smith and Wesson cartridge so called?

Ans. That depends entirely upon the construction of the rear end of the cylinder. If the back ends of the chamber be counter bored sufficiently to admit the flange at the butt of the cartridge, as is the case with some cylinders I have seen, there would be no difficulty in revolving and sufficiently discharging the cartridges with a space no larger than that shown between the breech-plate and the cylinder in Exhibit White Pistol No. 1. If, on the other hand, the chambers were not counter bored at the butt, the Smith and Wesson cartridges could not be used in the pistol unless the space were larger than is shown in the Exhibit, in order to make room for the flanges at the butts of the cartridges, which would in that case project beyond the rear end of the cylinder.

Cross-Int. 3. Without such counter boring on the one hand, or widening the seam between the butt of the cylinder and the breech-piece sufficiently to permit lateral escape of fire on the one hand, could any cartridges be revolved so as to be successively brought to the line of discharge, which had any flange or other projection beyond the rear face of the cylinder?

Ans. None, that I am acquainted with.

Cross-Int. 4. Please point out from the White specification and drawings what instructions are given as to the space which may be left between the butt of the cylinder and the breech-piece.

Ans. Nothing is said or shown as to what space *may be* left between the butt of the cylinder and the breech-piece.

Cross-Int. 5. Please state what is said or shown upon that subject in the specification or drawing.

Ans. It is stated in the specification that "p. Fig. 1, is a fixed breech-piece arranged opposite the barrel behind the cylinder to serve as a breech to that chamber which happens to be in line with the barrel." And the drawing shows this breech-piece close against the back end of the cylinder.

Cross-Int. 6. Do you know whether any such cartridge as that of which Exhibit A 2 is the shell is to be found in any patent or published work anterior to April 3, 1855, and if so, in what?

Ans. I know of descriptions of cartridges with perforated leather butts being published prior to April 3, 1855; but I do not know of any cartridges in which the leather butt is held fast to the cylindrical shell of metal by a flange extending inwards, as is the case with the shell of the cartridge referred to in the question, being described in a publication, or patented, prior to April 3, 1855.

Cross-Int. 7. Where do you find any description of a cartridge like Exhibit U, paper shell with perforated lead shoe?

Ans. I do not recollect any published description of that cartridge prior to April 3, 1855.

Direct—Resumed by Mr. Keller.

Int. 8. When Smith and Wesson cartridges are used in a pistol hav-

ing the chamber of the cylinder bored entirely through to admit of being charged at the rear end, what, if any, necessity is there for making a close fit between the rear end of the cylinder and fixed breech-piece *p*, described and represented in the White patent?

Ans. There is none.

Int. 9. Why not?

Ans. Because the rear end of the Smith & Wesson cartridge is not perforated, consequently it completely closes the rear end of the chamber and prevents the escape of any fire thereat.

It is admitted by counsel for the defendant that Allen & Wheelock, Edwin A. Prescott, and the Baker Manufacturing Company have, within the period covered by the Bill of Complaint, manufactured and sold pistols like those described by the witness in his answer to the 9th direct interrogatory, and that Exhibit I 1 is one of the pistols so manufactured by Allen & Wheelock, that the pistol Exhibit G 1 is one of the pistols so manufactured by E. A. Prescott, and that Exhibit H 1 is one of the pistols so manufactured by The Bacon Manufacturing Company.

E. S. RENWICK.

Subscribed and sworn to before me, this 23d April, 1863.

R. E. STILWELL, *Examiner, etc.*

DEPOSITION OF THOMAS D. STETSON.

Thomas D. Stetson, being called as a witness on the part of the complainant, deposes and says as follows:

Int. 1. What is your name, age, residence and occupation?

Ans. Thomas D. Stetson, age 34 years, reside New York City, occupation, Solicitor of Patents.

Int. 2. Have you examined Letters patent for improvement in fire-arms, granted to Rollin White on the 3d April, 1855, and numbered 12,649? and if yea, state whether you understand the same, whether the

descriptions and drawings are sufficient to enable an armorer to construct an arm in accordance with such description and drawing, and what are the characteristic features which you find therein described and represented, first stating what your qualifications are as an expert in matters relating to inventions.

Ans. I was trained as a practical mechanic, and worked as such from the age of 16 to 20. I have been engaged in my present profession, soliciting American and Foreign patents, since the year 1855, and have a large practice. I have served as Expert in United States Courts in patent questions, have been consulted in regard to matters of mechanical construction aside from patents, but relating to preferable modes of construction in certain cases to obtain the greatest probability of success; and have, at different periods, written much relating to mechanical and other practical scientific questions. I was editor of Appleton's *Mechanic Magazine* during the year 1853, was the mechanical reporter of the *New York Tribune* during 1854, and have written for the *Scientific American* and *Tribune*, and various railroad papers, and the *London Practical Mechanic Journal*, since those dates, much description of, and criticism on, inventions and scientific progress. I have visited the United States Patent Office monthly, with tolerable regularity, since 1857.

I have examined the Rollin White patent referred to, and understand the description therein contained. The description is sufficient to enable an armorer to construct the arm in accordance with the description and drawing.

The characteristic features described and represented are, first, an extension of the chambers in a rotating cylinder arm in which the chambers are discharged successively through a single barrel so that the charges may be inserted into said chambers from the rear end, instead of, as in other pistols, from the front end of the cylinder. Another characteristic feature which I find therein, lies in a construction of the parts in the rear of such cylinder whereby the surface presented in the rear is nearer to the cylinder, opposite to and immediately around the rear of that chamber which is in position for firing, than in the rear of, and around the rear of, the other chambers.

I find also characteristic features relating to means of avoiding or reducing the danger which might result from the discharge of a chamber when in a wrong position; also means of introducing charges automatically into such chambers so mounted and arranged.

Int. 3. In rotating cylinder pistols such as Colt's, by what means are the charges in the chamber of the cylinder not in line with the barrel prevented from moving forward from the force of the recoil when firing the charge from that chamber which is in line with the barrel?

Ans. In Colt's, and similar pistols, in which the chambers in the rotating cylinder are not extended through to the rear, as in Rollin White's said patent, but are open only at the front, the charges are very firmly held by the friction and adhesion of the projectiles. This is made of such size that it is forced in with difficulty, and upon the application of a sufficient force to press it home to the proper extent it sticks with great force, sufficient to withstand all the concussion due to the recoil of the arm in firing the other chambers, and all other ordinary concussions.

The Colt pistol is provided with a powerful lever press, as in Exhibit Colt now shown me, and this press is availed of, every time a cartridge is inserted, to force home the ball, as I have described.

Int. 4. What, if any, provision do you find in the Rollin White patent for avoiding the necessity of ramming in the charges into the chambers, to prevent them being moved forward by the force of the recoil?

Ans. The fact that in Mr. White's arm the chambers in the cylinder are extended through to the rear to allow the insertion of the cartridge in the opposite direction, that is to say, through the rear end of the cylinder, allows the employment of a radically different force for restraining the forward motion of the cartridges by the interposition of the metal of the cylinder itself to act as a bar or stop. The form in which Mr. White's patent describes this is a conical form to be given to each chamber, the larger end being rearward. This allows a larger cartridge to be inserted, and to be inserted easily, than can move through and protrude from the forward end; by this means the cartridge presses in

its effort to move forward against the inclined size of the conical chamber which incloses it, and meets, in addition to the friction and adhesion due to the force with which it is pressed into the chamber in the act of charging, a resistance due to the form and arrangement of the parts which restrains the cartridge efficiently and insures its being never so far forward as to protrude beyond the front face of the cylinder, and this is accomplished without any considerable pressure being required in inserting the cartridge,—no more pressure than can be easily produced by the finger of the operator applied directly without a necessity for any mechanism for the purpose.

Int. 5. Look at the pistols marked F. 1, G 1 and H 1, and state with reference to each of them, whether you find it to be substantially like or substantially different from the invention described in the Rollin White patent referred to in your answer to the 2d question, and if substantially like, in what respect or respects, assuming that in the use of each of the said exhibits, metallic cartridges are used, such as represented by Exhibit P. having the rear end closed, and with a projecting flange containing fulminate or percussion priming.

Ans. All these pistols contain the feature referred to as the first distinguishing characteristic. In each of these pistols there is a rotating cylinder containing a number of chambers all arranged to be discharged through a single barrel, and all extended through to the rear end of said cylinder so as to allow them to be loaded through their rear ends; all of them also, excepting, perhaps, F 1, contain the feature which I refer to as the second in order, because in H 1, and G 1, there is a distinctly recognizable prominence or swell on the breech surface, immediately behind and around the point where the rear of each chamber is presented when in position for firing, in other words the surface in the rear of the cylinder is nearer the cylinder at that point than at other points. In the pistol marked F 1, the prominence, if any, at that point is not so distinctly visible. I cannot say that it is present at all, without more accurate observation than I have the means now of making. The feature also which is referred to in Interrogatory 4, or in the answer thereto,—I mean the restraining of the cartridges by interposing the material of the cylinder,—is also present in all three of these pistols used in the

manner proposed in the interrogatory, the body of the cartridge is adapted to slide easily into the chamber, and the flange at the rear of the cartridge is adapted to rest against the adjacent metal of the cylinder, and thus to prevent by its direct pressure thereon the displacement in question. The pressure of the flange of this cartridge against the plain surface at the back end of the cylinder, is more direct than the pressure of the cartridge against the conical interior of a chamber as described in Mr. White's patent, and a less pressure of this flange, against the metal of the cylinder, would suffice to restrain the jerking forward of the cartridge, and avoid all danger of displacement from that cause, but the function is the same in both cases.

I do not find in either of these pistols the characteristics of the Rollin White invention which relate to the automatic charging from a magazine on the arm, nor in any proper sense do I find the provision on either of these pistols for stopping the ball, and thus preventing or diminishing the danger of an accidental explosion of the wrong chamber.

Int. 6. Are there any other advantages due to the extension of the chambers entirely through the rear end of the cylinder than that of inserting the charge easily at the rear end? and if yea, state what they are.

Ans. There are in the pistol described in the patent of Rollin White, and in the three pistols before me, Exhibit G 1, F 1, H 1, — there are advantages in the extending of the chambers through, additional to the facility of loading, thereby afforded; one such advantage lies in an increased facility for cleaning the chambers; another increased facility for ascertaining the condition of the interior; another increased facility for removing fragments of cartridge which may remain after firing. This is a very important point with some cartridges, and may hardly be called cleaning. Another advantage lies in increased facility in removing the cartridge without firing, when, for any reason, such a step may be desirable. Other advantages due to this feature in the several arms, or in arms generally, lies in the fact that it allows the application of the additional means referred to in my previous answers for restraining a too great forward motion of the cartridges. I mean the displacement of

the cartridges by their moving forward by inertia when the arm is fired. Another advantage, perhaps, properly merged in the one last enumerated, lies in its allowing the use of many kinds of cartridges, which cannot, in the present state of the art, be employed in the Colt and the like pistols, in which the chambers are open at the muzzle only, and do not extend through to the rear.

Int. 7. What are the functions and advantages due to the breech-piece "*p*," described in the Rollin White patent, behind that chamber which happens to be in line with the barrel — the said breech-piece "*p*" projecting forward of the face of, or nearer to the rear of, the cylinder than the surface of the recoil-shield "*D*"?

Ans. It serves as an abutment against which the pressure of the powder is made when the cartridge in the chamber is fired. It is close to the rear face of the cylinder, and covers the rear of the chamber which is being fired, and also a portion of the surface on all sides of that chamber. It is so close to the rear face of the cylinder that but little, if any, gas or flame from the powder is allowed to escape between itself and the cylinder. It does not extend in any direction so far as to cover the rear end of any other chamber than that one which is in the proper position for firing. This piece "*p*" is important in this pistol, in its construction and arrangement in that respect. I mean in respect to its not extending so far as to cover the rear of other chambers than the one to be fired. This property is apparent from the drawings which, in figure 1, show it as not extending down so far as to cover the lowermost chambers; and in figure 4, as not extending so far to the right as to cover the chamber which, for the time being, is on that side. This figure 4, as also figure 2, forbid the supposition that it covers the chamber which is, for the time being, on the left side, because that is the place where the automatic brazing apparatus is represented as applied. These drawings and the description show that the piece "*p*" extends across the rear of no other chamber than the one that is in position for firing. The absence of this plate at the rear of the other chambers very materially diminishes their liability to be fired by any flame which may escape from the one which is fired. If the plate "*p*" extended across the rear of any other chamber than the one which is in the position for

firing, it would, by confining the flame and maintaining to some extent its pressure, induce a penetration of the flame into the cartridge in such chamber, or would *tend* to induce such penetration. It is the pressure of the flame in a fire-arm which makes it so effective; and any flame which escapes around the rear of a chamber in the act of firing, does so under a pressure of many hundred pounds per square inch. In extending radially, and thus diffusing itself, its pressure is reduced; but it is not so much reduced in traversing the small space between one chamber and another as to reduce it to the pressure of the external atmosphere; and if while thus travelling between two surfaces which are very close together, it is brought in contact with either raw powder, by which I mean naked powder, or with powder slightly covered, as for example, powder covered with paper, gut, or the like, or is brought in contact with even a thick metallic cartridge, or a case of wood, or leather, punctured, and containing powder, the powder is liable to be ignited; but the piece "*p*," by not extending across the rear of any other chamber than the one which is in position for firing, and by ceasing thus to confine any escaping flame under pressure before such flame can reach the rear of any adjacent cartridge, allows such escaping flame to expand itself, and to be reduced to the same pressure as the surrounding atmosphere, by which expansion on passing the edge of the piece "*p*" it loses its penetrating power, as also much of its heat. This fact is, therefore, important in avoiding the liability of the chambers to explode when in a wrong position, or in other words, the liability of the firing of one chamber to fire another. This is also important in regard to the friction which retards the rotation of the cylinder. The piece "*p*" should be very close to the cylinder; in fact almost, or quite in contact therewith, in order to stop the escape of gas, as I have described, or to reduce it to the smallest practicable amount. If it extended over the rear of any other than the proper chamber, it would induce friction on the surfaces surrounding those other chambers, and all such friction would retard the rotation of the cylinder, and would be thus objectionable.

Int. 8. What, if any, function is due to the projection opposite that chamber which is in line with the barrel in the pistols Exhibits G 1 and

H 1, distant as such projection is from the rear face of the cylinder in the said Exhibits, assuming that in the use of the said pistols metallic cartridges are used like Exhibit P?

Ans. The flange of the cartridge is of such thickness as fills the space between the rear of the cylinder. And this projection, in these pistols G 1 and H 1, used in the manner intended, with the flange cartridge properly adapted thereto, performs the same function as in the pistol described in Mr. White's patent—that is, it covers the chamber and closes tightly, or with tolerable tightness, the rear of the chamber which is in position, and allows any flame which escapes therefrom to expand and reduce its tension to that of the atmosphere before reaching the rear of any other chamber, and relieves the rear of the cylinder and its attachments from the friction due to a rubbing of the surface thereon, except at points where a very intimate contact therewith is desirable. The last function is the most important when the metallic flanged cartridges, like Exhibit P, are perfectly made.

Int. 9. Look at Exhibit White Pistol No. 1, N. Austin Parks, Examiner, and state whether it is constructed in accordance with the construction described and represented in the Rollin White patent.

Ans. It is broken. Before its fracture it evidently did embody several of the distinguishing characteristics described in the patent referred to. It was constructed in accordance with the patent so far as the extending of the chambers through to the rear, and the provision for holding the cartridges back in their proper position, and for stopping the ball in case of an accidental discharge of a wrong chamber, are concerned. It does not contain any of the provisions for loading the chambers automatically, and is not constructed in accordance with the patent in regard to the breech-piece "*p*." In this pistol the breech-piece "*p*" is not fitted close to the rear of the cylinder, but is some 64th of an inch or more distant therefrom, and it extends so far to the right that it covers about half of the adjacent chamber on that side, and extends so far to the left that it covers the whole of the adjacent chamber on that side, and nearly half of the next chamber on that side. These two facts would very materially influence its operation, and be very prejudicial to its success. There are other differences which do not seem to

me very important except in their effect on the strength of the arm. Thus the parts are brazed together instead of being manufactured in one piece, and the heating of the parts would be likely to injure their tenacity. There are six chambers instead of five, and the cylinder is a little larger than in the patent. The first feature would tend to promote the flow of gas from one chamber to the other across the rear. The last fact would tend to prevent it, provided that all the parts were made in proportion. But they are not so made. The bore, both of the barrel and of the chambers, being much larger in this pistol than in the patent — larger absolutely, and larger in proportion to the size of the cylinder. The space between the chambers in this pistol is much less than in the patent. In the patent the space intervening between one chamber and another is about two and a half times as great as in this pistol. The too great contiguity of the chambers in this pistol is objectionable, by increasing the chance that fire may communicate across, provided the conditions in other respects are equal.

The patent shows a deep recess "e," and describes it. This pistol has a recess somewhat corresponding thereto, but it differs in the fact that it is deeper, and does not extend round so far. The whole front-plate is considerably thicker than in the patent, nearly twice as thick; but this does not, so far as I can now see, materially affect the arm, except to make it heavier, perhaps, than is necessary, and the excess of depth in the groove "e," or rather recess "e," is not of any importance, so far as I am aware, but in the fact that this recess does not extend around so near to the barrel as it ought, on either side, does exert a very material influence in case either, or both the chambers adjacent to the one which is in a position for firing should be discharged by a communication of fire therefrom. In the White patent, the projectile from those adjacent chambers would be allowed to escape out of the chambers and be received in the recess. On the right hand side of the pistol there would be a sixteenth of an inch space to spare between such projectile and the end of the recess. On the left hand side, there would be no space but the whole of the bullet would be received into the recess. No part of it would strike on the plane surface of the front-plate, but all would be admitted freely into the recess. In this

pistol these conditions do not obtain. The recess "c," is not long enough. On the right hand side, more than half of the projectile would not go into the recess, or meet it at all, but would strike against the plane surface of the first plate, only a sixteenth of an inch from the front end of the cylinder. On the left side, almost the whole of the bullet would be similarly projected against the plane surface, close to the cylinder. The effect of this difference in construction, or this bad construction, would be to very greatly retard, I should judge would almost absolutely prevent, the escape of the bullet from the chamber on either side of that chamber which is in position for firing. In the construction described in Mr. White's patent, the bullet, if round, or but moderately elongated, would be entirely received in the recess "c," leaving a very free discharge around the mouth of the chamber for the escape of the gas or flame which impelled it. In this pistol the bullet could not thus escape, and whether spherical, or elongated, would be stopped so early and in such a position that the escape of the gas would be very much choked, and the strain on the pistol very much increased, in consequence.

Int. 10. Of what material is the frame of the pistol referred to in your last answer, made, which surrounds the cylinder and connects the barrel with the recoil-shield?

Ans. I don't see any way to determine it very closely. It is all finished except the fractured surfaces, and they are very much blackened. I should judge it was built up by brazing together, with soft brass, pieces of cast iron.

Adjourned to 10 A. M., the 24th inst.

FRIDAY, April 24, 1863.

Counsel on both sides present.

Int. 11. Have you examined the copies in French, and the translations into English, of the French patent, granted to Lefauchaux for improvements in fire-arms, granted on the second of May, 1845, and the additions severally on the 7th of Feb. and 25th of May, 1846? and, if yea, state generally the character of the invention described in the

said patent of 1845, especially the character of the additional improvement, dated Feb. 7, 1846, and generally the improvement of May, 1846, and before giving your answer, state whether you have any knowledge of the French language.

Ans. I am not thoroughly familiar with the French language. I have never had occasion to use it except in connection with machinery and patents; but I have studied French, and have examined many French patents and French publications of various kinds relating to inventions, and am successful in ascertaining from the drawings and description in French works the construction and operation of the apparatus described.

[*Objected to for incompetency of witness.*]

I have read and examined carefully the French and English copies of the Lefauchaux patents referred to. The invention described in the patent of May 2, 1845, is a single-barreled pistol, in which the barrel is open at both ends and is exposed at rear end by displacing it laterally from the fixed breech to allow it to receive its charge through the rear. The construction described in the additional improvement, dated Feb'y 7, 1846, is a pistol with several barrels adapted to rotate around one common central axis, and to slide forward on such axis, or be retained in place, according as a nut on the forward end of the axis is removed and replaced. When the nut is removed, and the series of barrels are slipped forward on the axis, the rear ends of all the barrels are exposed and open so that they allow the several charges to be inserted therein. When the series of barrels are thus supplied with ammunition they are slid back, and their rear ends all pressed against a flat breech-plate or disk, and the nut on the front end of the axis being tightened upon the forward end of the series of barrels, the series of barrels are held in tight contact with the breech-plate or disk; and all, that is to say, the series of barrels and the breech-plate, are adapted to be revolved together by appropriate mechanism. A collar is described as applicable at the forward end of series of barrels, between the series of barrels and the under side of the head of the screw. This collar, as constructed and arranged, would tend to diminish the liability that the construction necessarily involves of rotating the screw by the friction

of the revolving part. If the front end of the series of barrels applied directly to the under side of the head of the screw, the screw being fixed in a pin or axis not revolving with the series of barrels, but held stationary on the stock, it is evident that if the friction of the revolving part should turn the screw in either direction it would disturb the adjustment, by either loosening the screw or setting it too tightly. The collar diminishes this liability and allows the head of the screw to be made much smaller, and consequently to receive the friction with a less leverage than otherwise.

The several barrels in the series are described as secured very firmly together so as to form in fact a single piece of metal bored properly to form therefrom the series of barrels, and the arrangement is such that each may be discharged in its turn by a single lock.

The construction described in the additional improvement, dated May 25, '46, differs from the one just described, in the fact that the central axis is free to revolve with the series of barrels. This allows the collar just described to be dispensed with — avoids all liability of the adjustment of the screw being disturbed by the friction, because there is no friction at that point. It also avoids a liability which existed in the Fig. 7 construction, to friction between the back-plate, or breech-plate, and the fixed stock becoming objectionable. In this May 25 construction, the breech-plate is described as made in one piece, with the axis, or pin, if preferred, and the nut at the front end of the axis may be set or screwed down, so as to confine the series of barrels against the revolving breech-piece with as much force as may be desired, without subjecting the revolving parts to any additional friction in consequence.

Int. 12. State whether you find in the Lefauchaux patent alone, or in the additions referred to in your last answer, either of the characteristic features which you find in the Rollin White patent of April 3, 1855, as stated by you.

[Objected to for incompetency of witness.]

Ans. I do not.

Int. 13. In your answer to the 11th question, did you rely upon the original text in French alone, or upon the French and the translations thereof, marked Charles Folsom?

Ans. I read first the publication in the official French work, which contains drawings and specifications, which I found in the Astor Library. I mean the *Brevet d'Invention*, second series, vol. 4. I then afterwards examined certified copies of the same patents and translations signed Charles Folsom, which were loaned me yesterday. I rely upon the original as I find it in the certified copy, in preference to the others.

Int. 14. Do you understand the inventions and the constructions differently from the translation in English, that you do from the certified copies in French?

Ans. They all agree in most points.

Int. 15. You say they agree on most points; do they disagree in any essential point, and if so, in what?

[*Objected to.*]

Ans. I do not call to mind any point that seems essential in which they absolutely disagree.

Int. 16. Have you examined the description and drawing of a patent granted to Lefauchaux, in France, in 1834, and published in the *Brevet d'Invention*, Vol. 48? and if yea, state generally in what manner that the arm therein described and represented is to be charged or loaded.

[*Objected to.*]

Ans. I have. The arm is a double-barreled arm, not a revolving arm. The barrels are slid forward, and receive the charge through their rear ends which are open when thus slid forward and are confined firmly against the stationary breech-piece when they are drawn back into the proper position for firing.

Int. 17. Have you examined the specification and drawings of a patent purported to have been granted in France to the son of Lefauchaux, the patentee of the patent of May 2, 1845, before referred to, as published in the *Brevet d'Invention*, said to have been granted April 15, 1854?

Ans. I have not read the specification, but I have examined and made a copy of the drawing.

Int. 18. Will you produce such copies of the drawings, that they may be made an exhibit in this case?

Ans. I do so. The library was about closing before I finished, and I omitted the figures from 18¹ to 24, inclusive, representing them only by a pencil sketch. The exhibits are marked "Lefauchaux, 1854," R. E. S., Examiner.

Int. 19. Will you examine the pistol marked Jubal Harrington, and state whether you find therein the characteristic features which you have pointed out as belonging to the Rollin White patent?

Ans. I have done so. I do not find any of those characteristics in this pistol.

Cross-examined by Mr. Causten Browne, counsel for defendants.

Cross-Int. 1. Do you, or not, consider the conical form of the chambers or some mechanical equivalent therefor, an essential element of the first part of White's invention, that part to which the first claim is said to relate?

Ans. I do not consider it an essential part.

Cross-Int. 2. Do you, or not, consider the projection of that part of the recoil-plate which is opposite the rear of the chamber in the line of discharge beyond the vertical line of the rest of the recoil-plate an essential element of that part of his invention?

Ans. I do not.

Cross-Int. 3. Do you consider either of these features essential elements of the invention described and represented in the White patent?

Ans. I consider them important, but I do not consider them as absolutely necessary to the success of the other features of the invention.

Cross-Int. 4. Do you consider either of them essential to the practice of the invention substantially as described and represented by White?

Ans. I consider them in themselves substantial and important features, going to increase the usefulness of the pistol described in the patent, but I consider them as not necessary to the successful practical development of that feature of the invention which seems to be particularly pointed out in the first clause of the claim.

Cross-Int. 5. Do you, or not, consider either of them to belong to the

substance of the invention described and represented in the White patent.

Ans. I consider them substantial and important features in the pistol described. So far as I am aware, they had not been known previous to their invention by Rollin White. I consider them, therefore, inventions, or features of inventions, described in the specification and drawings in the said Rollin White's patent, so clearly that they could be practically incorporated in a pistol. I do not consider them necessary to the practical success of the other features described in the said patent. If the question calls for more than this, I do not understand it.

Cross-Int. 6. Do you, or not, consider either of these features as constituting any part of the substantial novelty shown in the White patent?

[*Objected to.*]

Ans. I do consider them both substantial novelties described in that patent. They are shown in the drawings, and described in the specification. I am not aware of their prior knowledge by any one.

Cross-Int. 7. Do you consider either of them essential to the practical operation of an arm which receives the charges at the rear of chambers bored entirely through a rotating cylinder, and brought successively into line, to be discharged through a single stationary barrel?

Ans. I do not.

Cross-Int. 8. Without the projection upon the face of the recoil-shield, or some equivalent therefor, is an arm like that shown in the White specification and drawings a practically operative arm? I mean an arm with a single nipple.

Ans. It certainly is.

Cross-Int. 9. Do you mean that if the breech-piece, shown in the White drawing, was omitted, the pistol would then be a practically operative arm?

Ans. Yes.

Cross-Int. 10. In your 6th answer in chief, to which please refer, you enumerate certain practical advantages of having the chambers in White's pistol extended entirely through the cylinder from front to rear. If the cylinder was half as long again, would these advantages remain?

Ans. All of them would, I think.

Cross-Int. 11. Would they, if it was as long again as the White cylinder? The pistol of course to remain in other respects the same.

Ans. It would require a longer instrument to push out the material from the interior, rather inconveniently long, but the advantages would remain.

Cross-Int. 12. If the cylinder was three times the length of the cylinder of White, would the advantages you have named as belonging to the boring of the chambers entirely through, remain, substantially?

Ans. If the construction in other respects were the same as described in the patent, the arm would be very badly proportioned. The cartridge would require to be much too long to be effective, and the affair generally, would be very ill adapted to serve the purpose; but I think the advantages due to the extending the chambers through would still be realized.

Cross-Int. 13. That is all I asked you, was n't it?

Ans. I understand it so.

Cross-Int. 14. Do the advantages you have enumerated as belonging to the boring of the chambers entirely through, depend upon the length of the cartridge relatively to the length of the bore of the chambers?

Ans. The length of the cartridge must be the same, or about the same, as the length of the chamber.

Cross-Int. 15. Question repeated.

Ans. Cartridges longer than the cylinder cannot be used except by allowing them to extend slightly beyond the rear, and having them strongly constructed at that point, as shown in the flanged metallic cartridge, Exhibit P. If they protrude from the front of the cylinder they cannot be rotated into the proper position relatively to the barrel. If, on the other hand, the cartridges are slightly shorter than the cylinder no marked evil results, except that the difference in the length of the cylinder and of the cartridge is not only useless metal, increasing the weight of the weapon, without correspondingly increasing its efficiency, because it is evident that all that part of the cylinder forward of the point of the bullet might be cut off, and the single barrel proportionally extended to meet it, thereby reducing the weight of the arm, but is positively objectionable in case, through defective workmanship, the axis of

the chamber and the axis of the barrel does not correspond or coincide perfectly. When the cartridge fills the chamber, the ball traverses across the joint from the chamber into the barrel at a comparatively moderate speed, because the powder has just commenced to act upon it. Ordinary inaccuracy of workmanship, or derangement due to wear or play of the parts, are of little account; but if the chamber was much longer than the cartridge, so that the ball obtained a high velocity before effecting the transfer from the cylinder into the barrel, it would be objectionable. This difficulty would increase in proportion as the chamber in the cylinder should not be filled by the cartridge.

Cross-Int. 16. Question repeated.

Ans. The advantages to boring the rear of the chamber through in the pistol constructed as in Rollin White's patent, would be realized whether the cartridge was properly adapted to the cylinder or not.

Cross-Int. 17. Are the advantages enumerated in your 6th answer in chief, as due to the boring of the chambers entirely through to the rear, dependent upon the charge passing through a stationary barrel in front of the chambers or not? and if yea, please point out which one of the advantages you have so enumerated is necessarily limited to such a case.

Ans. Rotating arms and in which the charges are not fired through a single barrel are radically different from the arm described and represented in Mr. White's patent.

[*The counsel for the defendants requests the witness to confine himself to give an answer to the question.*]

Such arms have no series of chambers, but on the contrary, a series of barrels, which

[*Counsel for the defendants renews his request.*]

I cannot describe improvements on an impracticable arm. The arm described in Mr. White's patent would, without the barrel, be impracticable. The chambers alone would not serve, but so far as it is possible to discuss advantages or disadvantages on such an arm, I think the advantages I have described in my sixth direct answer may be considered as pertaining to the chambering through of the cylinder as compared with loading them necessarily through their forward ends. I commenced to say that the class of arms which are properly constructed

to discharge and direct the projectile successfully without the feature referred to, may have their barrels extended through to the rear, and may load the same through their rear ends, and in such case all the several advantages which I described as pertaining to the chambering through of the cylinder in Mr. White's pistol may be realized in the other arms; that is to say, you may insert the cartridges through the rear into the barrels, of the other class of arms. You may use the various cartridges adapted to be inserted exclusively through the breech, may remove a cartridge unused by thrusting an instrument through the front of the barrels and pushing the cartridges back, and may better remove the debris and clean the arm, in consequence of the extension of the bore of the barrels through the breech.

Cross-Int. 18. I believe you have not answered my question. Please do so.

Ans. Perhaps I do not understand the question.

Cross-Int. 19. Do you believe you do not understand it?

Ans. I believe I do understand it.

Cross-Int. 20. Then please answer it.

Ans. I understand the inquiry to relate to a supposed case in which the barrel "C" represented in the White patent should be suppressed. I have answered as fully as I can now find language to express what I think would be the effect both of the extension of the chambers through to the rear in such an arm without any change in its character, and what would be the effect in an arm of a substantially different character if correspondingly extending through the bores of the barrels. I have said that the arm described by Rollin White would not be practicable without the barrel. I may add as reasons why that —

[The counsel for the defendant requests the witness to answer the question, and not trouble himself to give reasons for something which is not an answer to the question.]

I have said that the advantages I pointed out as due to the extending of the chambers through to the rear would in my opinion be realized in such an arm so far as the arm could be useful at all. I have explained also about other arms. I cannot now command clear language in which to answer the question.

Cross-Int. 21. Will you point out any one of the advantages you have enumerated in your sixth answer in chief as due to the boring of the chambers entirely through, which does not exist whether there be, or be not, a stationary discharge barrel in front of the chambers?

Ans. I do not understand the arm, or supposed arm, to which the question relates, if it relates to any thing else than one or two which I have described in my previous answers, to wit: the White pistol with the barrel removed, or a pistol with duplicate barrels. In giving my answer to the 6th direct interrogatory —

[*Counsel for the defendant requests an answer to his question.*]

I cannot point out any. There are none.

Cross-Int. 22. If you were to take a Colt pistol cylinder and saw it through in a plane perpendicular to its axis, and passing through the plane in which the bore of the chambers end at the rear, and then confine the two pieces together after loading the chambers at the rear, so that both will rotate together, will you, or will you not, have a pistol substantially like that described in White's patent as the first part of his invention?

Ans. I will, if the cylinder so prepared is again properly fitted in the pistol.

Cross-Int. 23. What do you mean by "properly fitted"?

Ans. I mean mounted in the arm, so that the chambers may be successively discharged through a single barrel.

Cross-Int. 24. If you were to take an old-fashioned Allen revolver, with the barrels held in place by one screw as usual, and screw it through as before directed for Colt's cylinder, will you not have a series of revolving chambers or barrels, capable of being loaded from the rear?

Ans. Yes.

Cross-Int. 25. Will not such barrels or chambers, by being bored through, possess all the advantages enumerated by you in your 6th answer in chief, as obtained from the boring through of the White cylinder?

Ans. They would.

Cross-Int. 26. In such an arm, when loaded, would there not be a

bore in which to insert the cartridge at the rear, and a barrel to direct the bullet when discharged, for each cartridge?

Ans. There would. They would both be one and the same.

Cross-Int. 27. What will be the substantial difference, if any, between an Allen revolver so altered, and the pepper-box revolver shown in the Lefauchaux specification and drawings?

Ans. They would be substantially equivalent.

Cross-Int. 28. In both cases, the alteration of the Colt pistol, and the alteration of the Allen pistol, have you not performed precisely the same mechanical operation on two forms of pistol equally well known before White's invention?

Ans. I should think so.

Cross-Int. 29. Is figure 4 in the Rollin White specification, a section taken at the time *x x* in figure 1?

Ans. It is.

Cross-Int. 30. Will you state the length exactly, by measurement, of the breech-piece "*p*," from the top of the cylinder downward on figure 1?

Ans. It is an inch, lacking a sixteenth.

Cross-Int. 31. Will you apply that measure to figure 4, and state whether the lower line of such breech-piece, so measured, does not require to be shown in dotted lines in figure 4, if shown at all?

Ans. Yes.

Cross-Int. 32. Are any such dotted lines on figure 4?

Ans. There are not.

Cross-Int. 33. Would not the breech-piece, if constructed in accordance with the drawing, extend considerably below the top of the two lower chambers, and cover a considerable part of the rear ends of those chambers?

Ans. It would extend below the top of the lower chambers. The drawing figure 1, shows how far it extends down over the space between the rear of the lowermost chambers.

[*Counsel for the defendant requests an answer to his question.*]

The drawings do not show how large a part, if any, of the rear of those chambers are covered, but positively forbid their being more than half covered.

Cross-Int. 34. To the extent that the breech-piece does cover such chambers, does it not make a close fit over them, and upon the adjacent metal of the cylinder?

Ans. It does.

Cross-Int. 35. The great practical utility of a revolving fire-arm consists in its ability to fire a number of charges in rapid succession, does it not?

Ans. Yes; that is one great advantage.

Cross-Int. 36. Is there any other great advantage, as contrasted with ordinary fire-arms?

Ans. Yes; there is a great advantage in the fact that it may be fired successively many times without loading between the firings, whether the charges are fired successively with great rapidity or not.

Cross-Int. 37. Is it not necessary, after firing each charge in the White pistol, as shown in his patent, to remove the exploded cap and place a fresh cap upon the nipple?

Ans. It is.

Cross-Int. 38. Is that necessary in the Colt pistol?

Ans. It is not.

Cross-Int. 39. Is it necessary in the Allen revolver?

Ans. It is not.

Cross-Int. 40. Is it necessary in the Lefauchaux pistol?

Ans. It is not.

Cross-Int. 41. Is it necessary in either of the three defendant pistols which have been exhibited to you?

Ans. It is not.

Cross-Int. 42. Did you ever see a revolver, except that shown in White's patent, which did require to be capped after each discharge?

Ans. I should think not.

Cross-Int. 43. Has the Harrington pistol a rotating cylinder?

Ans. Yes; nearly cylindrical. It is substantially cylindrical.

Cross-Int. 44. Has it a recoil-shield?

Ans. It has.

Cross-Int. 45. Has it not a single barrel?

Ans. It has.

Cross-Int. 46. Are not the chambers bored through from front to rear of cylinder?

Ans. They are not. There are cavities extending through, but they do not fulfil the function of the chambers in a fire-arm.

Cross-Int. 47. Are not the cavities substantially cylindrical?

Ans. They are cylindrical, except near their rear ends.

Cross-Int. 48. (*De bene esse.*) Is not that the case with the chambers or "cavities" in the Lefauchaux 1854 pistol of which you have put in sketches?

Ans. It is in figure 8, and some of the other figures.

Cross-Int. 49. (*De bene esse.*) Is not the rotating cylinder shown in Lefauchaux 1854 substantially like that shown in the White patent?

[*Objected to. The witness having testified that he has not read the specification of this Lefauchaux patent.*]

Ans. It is, in the main.

Cross-Int. 50. Is it substantially like it?

[*Objected to.*]

Ans. I have not read the specification, heard it read, or seen any translation. I cannot criticise it successfully.

Cross-Int. 51. Can you not, as an expert, answer the question upon examination of the drawings which you have put in?

Ans. No. I cannot give a reliable opinion from the drawings alone.

Cross-Int. 52. Look at Figure 8, which you traced yourself, and say if it does not show a cylinder with chambers bored through to the rear, and a small notch or slot, cut outwards from the periphery of each chamber to the exterior of the cylinder.

Ans. It corresponds with that theory of its construction.

Cross-Int. 53. Does figure 6 show the same thing?

Ans. It appears to.

Cross-Int. 54. Are not these Lefauchaux chambers constructed to receive at the rear, a metallic cartridge containing powder, and ball, and primer?

Ans. Yes, I think so.

Cross-Int. 55. Are not the Harrington chambers constructed to do the same thing?

Ans. No.

Cross-Int. 56. Look at the tubes now inserted in the chambers of the Harrington pistol, and say if, when loaded with powder, and ball, and a primer attached, they are not cartridges, as much as those the Lefauchaux chambers are constructed to receive.

[*Objected to as the question assumes that the bores in the Harrington pistols are chambers, the witness having testified that they are not chambers.*]

Ans. They are not.

Cross-Int. 57. Why not?

Ans. Because they inclose the projectile, while the Lefauchaux does not. They are larger than the barrel, are thick and adapted to serve themselves as chambers, and be used successively an indefinite number of times.

Cross-Int. 58. Do you know what the things are which are called iron cartridges, with their nipples, and lettered "f," in the the patent of Joseph Jarre, Jr., dated 29 September, 1840?

Ans. I do not.

Direct resumed by Mr. Keller, counsel for complainants.

R. D. Int. 1. So far as you can judge from the drawings of the Lefauchaux patent of 1854, is the bore of the chambers in the cylinder the same or of different diameter from the barrel?

Ans. It is the same.

R. D. Int. 2. In the Harrington pistol, which are of the same bore as the bore of the barrel, the bore of the metal chambers which carry the nipples for the cap priming, or the bores in the cylinders in which those tubes are inserted?

Ans. Neither corresponds exactly as this exhibit has been constructed, but the evident intention [*objected to*] was to make the interior of the tube, and not the interior of the space in which the tube is carried, correspond with the bore of the barrel.

R. D. Int. 3. Is the diameter of the balls to be fired from the Harrington pistol to be fitted to and charged within the tubes, or chambers, or within the bore of the carrier cylinder?

Ans. The tubes.

R. D. Int. 4. Why?

Ans. Because the tubes are in fact, as also in appearance, the chambers, and the cylinder which carries them performs the function simply of conveying these chambers. There is not room to introduce a ball forward of these chambers, and have it conveyed therewith in the carrier cylinder.

R. D. Int. 5. Referring to your answer to the 8th and 9th cross-interrogatories, if the breech-piece 'p,' in the arm described in the Rollin White patent, [be removed] what, if anything, would prevent the free escape of the fire from the rear end of the chamber?

Ans. The fixed part in the rear should be made to apply close to the rear of the cylinder. It would apply close, not only to that chamber which is in position for firing, but to the others also.

R. D. Int. 6. In a pistol constructed on the plan of White's patent, which performs the duty of directing the ball in firing, the barrel which is permanently connected with the stock or handle, or the chambers in the cylinder which is free to rotate on the central pin?

Ans. The fixed barrel.

R. D. Int. 7. Which is the best fitted for accurate shooting, a pistol with a cylinder of rotating chambers, behind a fixed barrel, as in White's patent, or a cylinder of barrels adapted to rotate on a central pin, as in the Lefauchaux additions of 1846, or what has been called here the Allen revolver?

[*Objected to.*]

Ans. The construction shown in White's patent.

R. D. Int. 8. You have stated in your cross-examination that by cutting a cylinder of a Colt revolver at right angles to its axis in a plane coincident with the rear end of the chambers, putting the two parts together, and replacing them, properly adjusted, in the frame of the pistol, you would have a pistol embodying the invention described in Rollin White's patent as the first part of his invention, and that if you cut off an old-fashioned Allen revolver, you perform the same operation on that, then it would be substantially the same as the pistol described in the Lefauchaux patent, and that in both these cases you would have performed precisely the same mechanical operations. If,

before doing this, you had not known either the White patent or the Lefauchaux patent, would you have performed simply a mechanical operation in thus making those changes, or a mental and mechanical operation, and if a mental operation what would you define it to be?

[*Objected to.*]

Ans. I should, in the case of the proposed operation on the Colt pistol, have introduced an important improvement in fire-arms by developing a new construction and arrangement of parts in a manner universally recognized as invention. In the case of the proposed operation on the Allen revolver, it might also be considered an invention.

R. D. Int. 9. Referring to the Rollin White patent, if the breech-piece "*p*" be extended down below the axis of the cylinder, as said to be shown in figure 1, does that indicate the breadth of the said breech-piece, or its extension laterally?

Ans. It does not.

R. D. Int. 10. Look at figure 1 of the Rollin White drawing, particularly at that part of it which represents the rear journal of the cylinder, and state whether the thickness of the metal below the central pin is not represented as being thicker than the part above the central pin.

Ans. It is.

R. D. Int. 11. What do you infer from that, that the drawings are made in accurate proportions, or inaccurate?

[*Objected to.*]

Ans. Very sensibly inaccurate.

R. D. Int. 12. From your experience in patents, are drawings for patents usually made with sufficient accuracy of proportions to be followed by constructors in reducing the invention to practice?

[*Objected to.*]

Ans. They are very rarely so.

R. D. Int. 13. If the breech "*p*" be made to extend in the form of a semicircle around the journal of the cylinder, to the extent that it is said to project in figure 1, would it extend sufficiently to cover the touch-holes of the cartridges inserted in the two lower chambers?

Ans. It would not.

R. D. Int. 14. In the absence of any representation of the form and lateral extension of the breech-piece "*p*," assuming it to extend below the axis of the cylinder, as represented in figure 1, would you have any difficulty in giving such a shape to that breech-piece as to prevent it from extending over any portion of the chambers other than the one in line with the barrel?

Ans. None whatever.

R. D. Int. 15. Taking the representation of the breech-piece "*p*," in figure 1, in connection with the terms of the specification in which the breech-piece "*p*" and its purposes are described, could you make it extend over any of the chambers other than the one in line with the barrel?

Ans. No.

R. D. Int. 16. In view of the state of the art at the date of the grant of the Rollin White patent, what would have been necessary to have been done in making an arm operating the plan of the first part of the White invention, to avoid the necessity of refiring after every discharge?

Ans. To apply any of the self-priming devices, of which several were well known, Day's self-priming device, the Maynard primer, and the Heurteleup primer, which latter was patented in France in 1834 or 1835, would either of them, serve the purpose?

Re-Cross-Int. 1. Describe Day's primer and Heurteleup's primer, as you understand them.

Ans. Day's primer moves forward a succession of pellets or wafers of fulminate, which were successively exploded by the successive operations of the lock. The Heurteleup primer fed out at each operation of the lock, a length of tube containing fulminate, which was cut off by the motion of the hammer, and carried down, and discharge.

Re-Cross-Int. 2. Where was the receptacle for the pellets in the Day primer?

Ans. I do not now call to mind the location of the reservoir. It was near the lock, and the wafers were seized and fed forward singly, so that on the explosion, the magazine was guarded against fire.

Re-Cross-Int. 3. Not knowing the location of the reservoir, how do you know that that primer could be applied to the White pistol without altering or reconstructing it?

Ans. It would need altering by adding to it Day's device. I know it would not require a reconstruction of the arm because it could be adapted to any arm.

Re-Cross-Int. 4. Question *Re-Cross* 3 repeated.

Ans. White's arm is represented with plenty of space for all the mechanism of the reservoir.

Re-Cross-Int. 5. Can you tell us where we can find a description or representation of the Day primer?

Ans. Joseph C. Day, then residing in Jersey City, exhibited it to me. It was described in the New York Tribune, early, I think, in 1854. I am of the opinion that it is exhibited fully in a patent issued to Joseph C. Day, in or about the year 1853. It might have been earlier.

THOMAS D. STETSON.

Subscribed and sworn to before me, this 24th April, 1863.

R. E. STILWELL, *Examiner, etc.*

Adjourned to 10 o'clock A. M., the 25th.

TUESDAY, April 21st, 1863.

DEPOSITION OF WILLIAM P. McFARLAND.

William P. McFarland, being called and sworn on the part of the complainants, deposes and says:

Present, C. M. Keller, counsel for the complainant, Causten Browne, counsel for the defendants.

Int. 1. What is your name, age, residence and occupation?

Ans. William P. McFarland; 46 years of age; reside at Chicopee Falls, Massachusetts, and am now Superintendent of the Massachusetts Arms Company's Works.

Int. 2. How long have you been connected with, or engaged in, the manufacture of fire-arms?

Ans. Twenty years.

Int. 3. In the practice of your profession, have you had occasion to construct arms from descriptions and drawings?

Ans. I have.

Int. 4. Have you examined the specification and drawings of a patent granted to Rollin White, April 3, 1855, and numbered 12,648? and if yea, state if you understand the construction of the arm therein described.

Ans. I have, and I understand it well enough to make an arm as described.

Int. 5. Have you at any time, and if so, when, and where, seen a pistol fired which was constructed in accordance with the description contained in that patent, such as is described in the first part of the invention, and made to be loaded by hand?

Ans. I have, on Monday April 13th, 1863. I saw a pistol made by Smith and Wesson, on the principle patented by Rollin White, at Chicopee Falls.

Int. 6. Look at the pistol marked Exhibit A 1, and state whether it is the one referred to in your last answer.

Ans. It is.

Int. 7. State fully with what kind of cartridges pistol Exhibit A 1 was loaded when you saw it fired, how many of the chambers were loaded with each kind of cartridges before it was fired, how primed and fired, and the result of each successive firing.

Ans. I saw it fired at two different days — Saturday, April 18, as well as April 13. On the first day, it was fired with metallic cartridges with leather shoes, or wads, behind the powder, with a preparation for the communication of fire from the cap through the cone. The preparation was in the leather. The cylinder was charged with six cartridges at once, and fired without discharging more than one cartridge

at once. I now produce two of the cases of the six that were fired, and they are marked Exhibit A 2. I also saw three metallic cartridges fired like such as is marked B, with a hole in the back end, through the metal, and no leather in it, which case is marked Exhibit A 3. Those were fired with the same results as the other six. On Saturday, April 18, I saw the same pistol fired with cartridges similar to those marked M upon the bullet, said to be the Marston cartridge, and marked by the Examiner A 4. Six charges were put in, and fired with the same result. Also, six with those like that marked W on the bullet, said to be the White cartridge, and which is marked by the Examiner A 5, with the same result.

Int. 8. During all the firing which you saw with that pistol, was any more than one of the charges fired at a time?

Ans. There was not.

Int. 9. In your opinion, is an arm constructed like Exhibit A, 1, and fired with any or all the different kinds of cartridges which you have produced, a safe or an unsafe arm?

Ans. I consider it a safe arm.

Int. 10. With what kind of powder were the cartridges made that were used in the different firings testified of by you?

Ans. Those fired on Saturday, the 18th, were made from Hazzard's powder, ordinary gunpowder. The others, I did not examine the powder.

Int. 11. You have stated that only three of the metallic cartridges, marked Exhibit A, 3, were charged and fired from the pistol. State, if you know, why only three of that kind of cartridge were used.

Ans. I understood Mr. Wesson to say that he had only three.

Int. 12. State whether those three cartridges, like Exhibit A, 3, were charged in three consecutive chambers or in alternate chambers.

Ans. In consecutive.

Cross-Examined by Mr. Causten Broune, counsel for defendants.

Cross-Int. 1. Who fired the pistol in those experiments?

Ans. Mr. Wesson.

Cross-Int. 2. Who loaded it?

Ans. Mr. Wesson.

Cross-Int. 3. Did you see him load it?

Ans. I did.

Cross-Int. 4. How did he fire it?

Ans. By pulling the trigger.

Cross-Int. 5. Did he hold the pistol in his hand when he fired it?

Ans. He did.

Cross-Int. 6. Who was present beside yourself and Mr. Wesson?

Ans. Mr. Horace Smith and Mr. Smith Bruce on the first day, and on the second Mr. Joshua Stevens and Mr. Smith Bruce.

Cross-Int. 7. State where these parties reside.

Ans. Mr. Smith resides at Springfield, Massachusetts; the other two gentlemen, at Chicopee Falls.

Cross-Int. 8. How many rounds did you see fired with each kind of cartridge mentioned? By round I mean the round of all the chambers.

Ans. I saw three full rounds and one half round.

Cross-Int. 9. How many rounds with each kind of cartridge, is my question.

Ans. I saw one round of each of three kinds and one half round of the other kinds.

Cross-Int. 10. Do you know of your own knowledge who made the cartridges that were used?

Ans. I do not.

Cross-Int. 11. Were you requested to attend for the purpose of witnessing the experiments?

Ans. I was.

Cross-Int. 12. Had you seen the cartridges used before you attended for that purpose?

Ans. I had not.

Cross-Int. 13. Did you examine, or attempt to examine, in any way the interior of any of the cartridges?

Ans. I did examine them before they were fired.

Cross-Int. 14. Which ones did you examine?

Ans. I examined the White and the Marston, these being the only two paper cartridges that were used.

Cross-Int. 15. How did you make your examination of them?

Ans. I took one of each kind from the box, and cut it open.

Cross-Int. 16. Did you make any examination of the butt or rear end of these cartridges?

Ans. I did.

Cross-Int. 17. What examination?

Ans. I looked into the case to see how thick the leather was at the perforation.

Cross-Int. 18. How thick was the leather?

Ans. I should judge the Marston cartridge was about an eighth of an inch, and the White cartridge not half as thick. I mean the thickness of the leather.

Cross-Int. 19. Was there any taper to the perforation? If so, what degree of taper?

Ans. I should think that there was a taper to the perforation. It was slight.

Cross-Int. 20. What do you mean by slight? How much larger was the perforation at one end than at the other?

Ans. I think it might be a third larger at one end of one; the other one, I should think, was very nearly straight, if not quite.

Cross-Int. 21. In which cartridge was the nearly straight one used?

Ans. The White.

Cross-Int. 22. Did you see the leather shoes, or packings, away from or out of either of those cartridges before the firing?

Ans. I did not.

Cross-Int. 23. I understand you that the firing of the three rounds with one kind of cartridge each, and the firing of the fourth half round with the other kind of cartridge, were done in the course of the two days you have referred to. Am I right?

Ans. You are.

Cross-Int. 24. Were those three rounds and a half the only time that you ever saw that pistol fired, or one like it?

Ans. They were.

Cross-Int. 25. Did Mr. Wesson say whether or not other experiments had been made with it?

Ans. He did say that there had.

Cross-Int. 26. You say the pistol, when fired in your presence, was held in Mr. Wesson's hand. Do you mean that he held it in his hand without anything else, just as it is exhibited here?

Ans. He held it just as it is, with the exception of being loaded.

Cross-Int. 27. Was there anything held, or used, or placed with, or in connection with, or around the loaded pistol at the time of the firing?

Ans. Nothing but Mr. Wesson's hand.

WM. P. McFARLAND.

Subscribed and sworn to, before me, this 21st day of April, 1863.

R. E. STILWELL,
Examiner, &c.

Adjourned to the 22d inst., at 10, A. M.

WEDNESDAY, APRIL 22d, 1863.

Present, counsel for the respective parties.

The witness desires to say that he omitted to state that he saw two metallic cartridges fired on Saturday, the 18th, such as he saw fired on Monday, the 13th, marked B, with the same result as on that day.

DEPOSITION OF SMITH BRUCE.

Smith Bruce, being called and sworn on the part of the complainants, deposes and says:

Int. 1. What is your name, age, residence and occupation?

Ans. Smith Bruce; 47 years of age; reside at Chicopee Falls, Massachusetts, and am now engaged as inspector of fire-arms for the Massachusetts Arms Co.

Int. 2. What has been your occupation before you were inspector of fire-arms for the Massachusetts Arms Company, and how long have you been inspector?

Ans. I was employed four years and a half in the United States Armory, in the model room, and have been inspector four years.

Int. 3. Have you, or not, in the practice of your occupation, had occasion to construct articles from written or printed descriptions, or from specifications and drawings annexed to letters patent?

Ans. I have.

Int. 4. Have you examined certified copies of letters patent granted to Rollin White, dated April 3d, 1855, numbered 12,648, for improvement in fire-arms, and do you understand the construction of the instrument, and the mechanism therein described?

Ans. I have examined those letters patent. I do understand the mechanism therein described.

Int. 5. Have you at any time, and if yea, when, and where, seen a pistol fired, which was constructed in accordance with the description contained in that patent, meaning such as is described therein, as the first part of the invention, and made to be loaded by hand?

Ans. I have, at Chicopee Falls, April 3, 1863, and another time the 18th of the same month.

Int. 6. Look at the pistol before you, marked A¹, and state whether or not, that is the pistol you saw fired, and referred to in your last answer.

Ans. It is.

Int. 7. Referring to the firing you have mentioned, state all the particulars thereof, with what kind of ammunition the pistol was loaded, how many chambers were loaded each time, how it was fired, and the result of each firing.

Ans. It was fired one round with metallic cartridge, with leather shoes in the rear end, like the one I produced, and like Exhibit A 2; all the chambers were loaded with these cartridges. I also saw three shots fired, part of another round of a metallic cartridge like the one I produced and like Exhibit A 3, the three were together in rotation. On the 18th April, I saw the same pistol fired with the Marston cartridge, one

full round like these produced, and like Exhibit A 4. I also, on the same day saw it fired one full round, loaded with the White cartridges, like the one produced, and like Exhibit A 5. There was on the same day two metallic cartridges fired liked Exhibit A 3. The firing went off as regularly as a person could desire, one after another.

Int. 8. During that firing, did more than one cartridge explode at a time?

Ans. It did not.

Int. 9. In your opinion, is the arm A 1, loaded with any or with all the kinds of cartridges you have named, a safe or an unsafe arm for firing?

Ans. I consider it a safe arm.

Int. 10. State, if you know, what kind of powder the cartridges you saw fired were made of.

Ans. All that I examined were *Hazzard's* powder.

Int. 11. State, if you know, why only three of the metallic cartridges marked Exhibit A, No. 3, were fired from the pistol on the 13th April.

Ans. It was all Mr. Wesson had with him.

Cross-Examined.

Cross-Int. 1. Was Mr. Wm. P. McFarland present on both the occasions when you witnessed these experiments?

Ans. He was.

SMITH BRUCE.

Subscribed and sworn to before me, this 22d April, 1863.

R. E. STILWELL, *Examiner.*

DEPOSITION OF JOSHUA STEVENS.

Joshua Stevens, being called as a witness on the part of the complainants, deposes and says as follows :

Int. 1. What is your name, age, residence, and occupation ?

Ans. Joshua Stevens ; 48 years of age ; reside Chicopee Falls, Massachusetts ; occupation, gun manufacturer.

Int. 2. How long have you been engaged in the business of manufacturing guns, and what part of the business have you done ?

Ans. I commenced in 1838, and have been engaged in it most of the time since. I have done most all parts of the business. I was foreman of the Massachusetts Arms Company some eight years.

Int. 3. Have you, or not, been accustomed to construct articles from written or printed descriptions, or from the specifications and drawings annexed to Letters patent ?

Ans. I have.

Int. 4. Have you examined certified copies of the Letters patent, and specification and drawings annexed, granted to Rollin White, dated April 3, 1855, and numbered 12,648 for improvement in fire-arms, and do you understand the improvement and mechanism therein described ?

Ans. I have examined the specifications and drawings, and think I fully understand them.

Int. 5. Have you, at any time, and if yea, when and where, seen a pistol fired, constructed according to the said description and drawing, such as is described as the first part of the invention ?

Ans. I saw a pistol fired described in the first part of the invention the 18th of the present month.

Int. 6. Look at the pistol marked Exhibit A¹, and say whether or not that is the one you saw fired as mentioned in your last answer.

Ans. This is the one.

Int. 7. State particularly what took place on the occasion you have mentioned, what kind of cartridges the pistol was charged with, how many chambers were loaded at each round, who fired, how fired, and the result of each successive fire.

Ans. The cylinder was first loaded with a cartridge called the Marston cartridge, with a greased paper with a leather butt or shoe filled with coarse powder which was called by Mr. Wesson Hazzard powder. The cylinder was loaded full and fired a full round. It was then loaded with a cartridge called the White cartridge; it was a paper cartridge with a leather shoe or butt in the rear of the cartridge; this shoe is cut out or counter-sunk on the inside, and it was fired a full round by Mr. Wesson with these cartridges. It was then loaded with two charges of a metallic cartridge with no shoe in the butt but a small hole like Exhibit A 3, and was fired by Mr. Wesson. The pistol was held in Mr. Wesson's hand when fired, and the charge went successively without accident or premature explosion.

Int. 8. In your opinion is an arm constructed like A 1, charged and fired with any or all the different cartridges you have mentioned, a safe or an unsafe arm?

Ans. In my opinion it is a safe arm.

Int. 9. What kind of powder was used in these cartridges you saw fired?

Ans. It was called Hazzard's powder, a coarsish powder, such as is used by the Government in proving arms.

Cross-Examined.

Cross-Int. 1. Was Mr. W. P. McFarland present at the experiments you witnessed?

Ans. He was.

Cross-Int. 2. Did you see the cartridges made?

Ans. I did not.

Cross-Int. 3. In this experiment, what was the pistol fired at?

Ans. I saw him fire a number of charges at a chip of wood in the canal.

Cross-Int. 4. I refer to the experiments which you testified about in your direct examination, where you say Mr. Wesson held the pistol in his hand and fired it, having the chambers loaded with such and such cartridges. What did Mr. Wesson fire at?

Ans. He fired part of the charges at a chip or block of wood in the canal.

Cross-Int. 5. Was he in doors or out of doors at the time?

Ans. He stood in a room and fired out of the window.

Cross-Int. 6. Did he stand facing the object at which he fired?

Ans. I should think he did.

Cross-Int. 7. Did he hold nothing in his hand at the time, except the loaded pistol?

Ans. I saw nothing.

Cross-Int. 8. Did you see his hand at the time he fired the pistol?

Ans. I could n't swear I was looking at his hand; I was looking at the object which he was firing at.

Cross-Int. 9. How far were you from him when he fired?

Ans. Probably not over four feet.

Cross-Int. 10. Was his back to you?

Ans. No, sir.

Cross-Int. 11. Well, how did you stand respectively?

Ans. I stood at one side, a little in the rear.

Cross-Int. 12. Were all the charges fired out of the window that you saw fired?

Ans. They were.

Re-Direct.

R. D. Int. 1. In revolving pistols like Colt's pistol, or those made by Smith and Wesson, what is that part in which the charges are placed preparatory to firing, called by persons engaged in the trade of gun or pistol making.

[*Objected to for incompetency of witness.*]

Ans. The cylinder.

JOSHUA STEVENS.

Subscribed and sworn to before me this 22d April, 1863.

R. E. STILWELL, *Examiner, etc.*

SATURDAY, April 25, 1863.

DEPOSITION OF CYRUS E. BUCKLAND.

Present, counsel on both sides.

Cyrus E. Buckland, being called and sworn on the part of the complainants, deposes and says :

Int. 1. What is your name, age, residence, and occupation ?

Ans. Cyrus E. Buckland ; 30 years of age ; reside in Springfield, Massachusetts ; and am a mechanical draughtsman.

Int. 2. How long have you been engaged in that business ?

Ans. Twelve years.

Int. 3. Have you been in the habit of constructing articles from written or printed descriptions, or from specifications, annexed to letters patent ?

Ans. I have not.

Int. 4. Have you examined certified copies of the letters patent and the specifications annexed, granted to Rollin White, dated April 3d, 1855, and numbered 12,648, and do you understand the improvement and the mechanism therein described ?

Ans. I have, and think I do understand them.

Int. 5. Have you made a model from the description contained in the patent, aided by drawings, and if so, what drawings did you have ?

Ans. I have caused a model to be made according to such description, aided by engravings in the United States Patent Office Report of 1855. I had no other drawings or model.

Int. 6. Will you produce that model, and make it an exhibit in this case ?

Ans. I will ; and the same is marked " Buckland."

Int. 7. Have you seen experiments tried in firing that model, or have you yourself fired it ? and if yea, state when, where, in whose presence, with what cartridges, and the details of the experiments, and the results.

Ans. I have fired it myself. I first fired it on the 23d of April, 1863, in New York, in presence of D. B. Wesson, with a paper shell

cartridge having a leather butt, or packing. I produce one cartridge marked Exhibit A 6, which is a specimen of one kind fired by me, on that occasion. I also produce another cartridge, which is a specimen of another kind used by me on that occasion, and which is marked Exhibit A 7. I first loaded the five chambers of the cylinder with the cartridges A 6, fired three of those charges in succession, in the usual way of firing a pistol, removed the cylinder from the pistol, and adjusted the revolving apparatus, reloaded by hand the three chambers of the cylinder, making a complete round, and fired them all in succession, in the usual way. I next placed five of the cartridges A 6, in the magazine, fired them in succession, in the usual way, the pistol operating as a self-charging arm. I next placed five cartridges of the sample A 7, in the magazine, and fired them in succession in the usual way, the pistol operating as a self-charging arm. I next loaded the five chambers of the cylinder by hand, with cartridges marked A 7, and fired them. Next using the pistol as a self-charging arm with cartridges A 6; fired 20 of them in the usual way, in succession, charging the pistol by hand with cartridges A 6, fired 15 of them in the usual way in succession. My next experiments were on the 20th day of April, 1863, in New York city, in presence of D. B. Wesson, J. W. Storrs, and D. Smith; I loaded the five chambers of the cylinder by first crowding in a naked bullet, next filling the chamber from the rear end with sporting powder, then, a perforated leather wad, or packing, covering the powder, and closing the rear end of the chamber. I fired this round in the usual way in succession. The next experiment was another round in the same way. I next loaded the five chambers of the cylinder with cartridges marked A 6, by hand, fired them in succession, in the usual way; that is all I fired. I never saw any one else fire the pistol.

Int. 8. In the course of the firing, mentioned in your last answer, were the discharges successive, and in the order designed, or were they out of order, and more than one chamber at a time?

Ans. They were in the order designed, and never more than one chamber at a time.

Int. 9. Will you annex specimens of the shells of cartridges A 6, and A 7, that have been fired?

Ans. I will, and do annex two of each kind. I also annex two specimens of the leather packing used in charging with the loose powder.

Int. 10. Will you explain the purposes of the separate piece of metal or side-plate, tied to the pistol?

Ans. I remove the side-plate which has the magazine and charging-piston attached; also the extension piece which is attached to the hammer for closing the mouth of the magazine, and in place of the side-plate thus removed, I attach the said extra side-plate which is tied to the pistol, thereby making a hand-loading revolving pistol.

Cross-examined by Mr. Causten Browne, counsel for defendants.

Cross-Int. 1. Give the name and residence of the man who made the pistol.

Ans. J. G. Clark, J. W. Dickinson, Charles R. Bowker, and others worked upon it under me, and I will add George Smith of the same place.

Cross-Int. 2. Did you keep the pistol in your possession from the time it was finished till the time you tried your experiments with it?

Ans. I did, with the exception of an exhibition which I made of it to Mr. Wesson.

Cross-Int. 3. During that exhibition did you have possession of it, or Mr. Wesson?

Ans. He had it in his hand part of the time, as well as myself.

Cross-Int. 4. In whose shop was it made?

Ans. Smith and Wesson's pistol factory, Springfield.

Cross-Int. 5. Are the workmen you have named employed in that factory?

Ans. They are.

Direct resumed by Mr. Keller, counsel for complainant.

Int. 1. Was the pistol fired at the time you showed it to Mr. Wesson?

Ans. It was soon after that, at the same meeting. I exhibited it to

him, he made an external examination of it, returned it to me, when I loaded and fired it as described.

C. E. BUCKLAND.

Subscribed and sworn to before me, this 25th April, 1863.

R. E. STILWELL, *Examiner, etc.*

DEPOSITION OF CYRUS E. BUCKLAND.

Cyrus E. Buckland, a witness in behalf of the complainants, being duly sworn, doth depose and say, in answer to interrogatories proposed to him by E. F. Hodges, Esq., counsel for complainants, as follows, viz :

Int. 1. What is your name, age, residence, and occupation, and have you been before examined in this case?

Ans. My name is Cyrus E. Buckland; age, 30; residence, Springfield, Mass.; occupation, mechanical draughtsman. I have been before examined in this case.

Int. 2. Please state whether you made any, and which, of the cartridges fired in the experiments testified to by you in your former deposition in this case—meaning the experiments with the pistol now before you marked “Buckland.”

Ans. I did not make any of them but saw some of those that were marked Exhibit 6; I mean the paper cartridge with leather butt or shoe.

Int. 3. Please state whether those cartridges, as fired, were or were not filled full of powder.

[*Objected to, not for form.*]

Ans. They were full.

Int. 4. Please state whether, in any of the experiments with said pistol, marked “Buckland,” the cartridges in the chambers of the cylinder not in a line with the barrel, were moved backward or recoiled from their position in said chambers upon the discharge; and state whether

or not there was any interruption or hindrance to the rotation of the cylinder occasioned by the discharge.

[*Objected to, as before.*]

Ans. According to my best knowledge they did not recoil out of place—not enough to prevent the cylinder from rotating freely by the action of the trigger. I did not look for any such recoil; the only hint I should have had of it would have been the cylinder refusing to rotate freely.

Int. 5. What knowledge have you of the force of the balls in those experiments? state, if you please.

[*Objected to, as before.*]

Ans. The target I fired at was composed of hard wood, $\frac{3}{4}$ inch thick; a large number of the bullets went entirely through; some were completely embedded.

Int. 6. In giving orders for the preparation of said cartridges, and in making them, was it, or not, your purpose to give them all the strength admissible to cartridges to be used in the cylinder in said pistol?

[*Objected to, as before.*]

Ans. It was my purpose that they should be as strong as possible; consequently they were made with the strongest powder used by Smith & Wesson in the manufacture of their metallic cartridges.

C. E. BUCKLAND.

Boston, April 30th, 1863. Subscribed and sworn to before me.

N. AUSTIN PARKS, *Examiner.*

DEPOSITION OF DEXTER SMITH.

Dexter Smith, being called and sworn on the part of the complainants, deposes and says:

Int. 1. What is your name, age, residence, and occupation?

Ans. Dexter Smith, 30 years of age, reside in Springfield, Massachusetts, and am a gunsmith.

Int. 2. Did you at any time, and if yea, when and where, make, or cause to be made, some cartridges for Mr. Wesson? and if yea, look at Exhibits A 2, A 3, A 4, A 5, and state whether those you made, or caused to be made, were like, or different from said Exhibits.

Ans. I made cartridges like A 4, and A 5, none like A 2, and A 3. I made them last week.

Int. 3. To whom did you give them after making them?

Ans. Mr. Wesson.

Int. 4. Did you at any time, and if so, when and where, see the pistol marked Buckland fired? and if you did see it fired, state by whom it was fired, with what kind of cartridges or charges, and how discharged and fired.

[*By consent the witness is permitted to refer to the answers of Mr. Buckland.*]

Ans. And adopts the same.

Cross-Examined by Mr. Browne, counsel for defendants.

Cross-Int. 1. Are you in Mr. Wesson's employ?

Ans. I am.

Cross-Int. 2. What kind of powder did you put in the cartridges you made like A 4 and 5?

Ans. I put in the same quality as is used in Smith and Wesson's No. 1 cartridge. It is Hazzard's powder, not his electric. It may be known as fine rifle powder. I know of no other trade name to designate it by.

Direct-Resumed.

Int. 1. To your knowledge how long has that kind of powder been used in making the Smith and Wesson cartridge?

Ans. It has been used for the last two or three years.

DEXTER SMITH.

The witness desires to correct his answer to the third cross, by saying

the grade of powder used was that used in No. 2, Smith and Wesson cartridges, instead of No. 1, marked Exhibits A, 4 and 5.

Cross-Int. Did any one remind you of this before giving your last answer, and if any one, who?

Ans. They did not.

Cross-Int. Did any one speak to you about it?

Ans. No, Sir.

DEXTER SMITH.

Subscribed and sworn to, before me, this 25th April, 1863.

R. E. STILWELL,
Examiner, &c.

DEPOSITION OF DANIEL B. WESSON.

Daniel B. Wesson called and sworn on part of complainants.

Int. 1. What is your name, age, residence, and occupation?

Ans. Daniel B. Wesson; age, 37 years; residence, Springfield, Massachusetts; and am a pistol manufacturer.

[*Objected to for incompetency of witness.*]

Int. 2. From whom did you receive the cartridges, Exhibits A 4 and 5, which were used by you in the experiments testified to by Mr. McFarland, Mr. Stevens, and Mr. Bruce?

Ans. I received the cartridges like those with which I made the experiments referred to, of Dexter Smith.

Int. 3. From the time you received them from Dexter Smith until you fired them, were they, or any of them, altered?

Ans. The balls in those like Exhibit A 5, were greased with tallow after I received them. Those of Exhibit A 4, the leather was oiled a little. These were all the alterations made.

D. B. WESSON.

Subscribed and sworn to before me, this 25th April, 1863.

R. E. STILWELL, *Examiner, &c.*

EXHIBIT E. S. RENWICK.

10,831.

INVENTION PATENT OF FIFTEEN YEARS. OF THE DATE OF 15TH
APRIL, 1854.

To Mr. Lefauchaux, of Paris, for improvements produced in fire-arms.

Plate XLIII. The name of Lefauchaux is attached to many ingenious arrangements or important improvements produced in the manufacture of fire-arms.

In 1846¹ the late Lefauchaux, my father, devised, among others, a particular mechanism permitting the loading of pistols or shoulder arms having many barrels without being obliged to dismount these latter separately, and proposed to apply to them a particular cartridge carrying its ball, its powder, and its fulminating capsule.

Since then, this species of multiple arms has been improved by many persons, and people appear to have adopted definitely this system with a single barrel but a multiple charge, the manipulation of which leaves nevertheless [something] to wish for in the point of view of the loading, since it must always be loaded by the orifice of the cylinder with powder, wads, balls, and separate capsules.

This inconvenience is without doubt redeemed by other qualities, but if, while preserving these last, one could do away with the inconvenience, there is no doubt that such an improvement would have its importance, manufacturingly and commercially speaking.

I have obtained this result. I have obtained it by processes simple and sure, and I claim for their conception and their application the benefit of an invention patent of fifteen years.

I propose accordingly to load arms for many shots working by rotation, with complete cartridges, called *Lefauchaux* cartridges, by operating successively for each shot and without its being necessary to employ a ramrod.

This arrangement is joined with the employment of a fixed breech employed as a base, and with an additional mechanism permitting the

¹ Vol. IV, page 146.

expulsion of the metallic cartridge, if one experienced any difficulties in withdrawing it after the discharge.

To give a very complete conception of these improvements, I accompany the present memoir with a drawing which represents them applied to a pistol for six shots, with a single fixed barrel, and a single movable cylinder, without primer-nipple, and without ramrod.

Figure 1, plate XLIII, is an exterior view of the complete pistol.

Figure 2 is a plan of it, or view from above, but without the handle nor the hammer.

Figure 3 represents the movable cylinder or revolver for six charges, in which the cartridges are placed.

Figures 4, 5, and 6 are the details of the principal piece.

Nothing is changed in the ordinary arrangement of the barrel *A* and the handle *B*.

The movement, likewise, of the cylinder is effected always by the cocking of the hammer, and by the protrusion of a spur, acting upon a kind of hexagonal claw; likewise the securing of the said nut or revolver *c*, in proper time, is always obtained by six notches *d* fitting into the head of a spring also put in action by the hammer.

The revolver *C* is of an entirely new construction; it is composed simply of a cylinder pierced with a certain number of cylindrical or slightly conical holes, or chambers *e*, six in the example which now occupies us, in addition to a central opening made use of in the mounting of it.

Each of these chambers is cut out at its base to form a notch, *i* fig. 6, in order to permit the passage of the striking needle *f*, depending from the cartridge *D*.

The breech *E* presents the form of a hemisphere; it has in its middle a groove to permit the striking of the hammer, and on its side a door *h*, fig. 4, 5, opening and closing by means of a small button *l*. It is by this single door that the cartridges are successively introduced in proportion as the cylinder turns upon its axle *k*.

The rubbing surfaces of the last piece and of the breech are perfectly dressed-up, because the said breech, acting as a base, performs here a new function, which requires this precision, in other respects very easy to be obtained.

Upon the side of the single barrel *A*, is adjusted by slides *m*, a small bolt *p*, designed to push back either the entire cartridge, when one wishes to uncharge the arm without making use of it, or the fragments of this last, if there has been a resistance or difficulty in withdrawing it.

This small bolt is operated simply by hand, in order to occupy in succession all parts of the small chambers, as is indicated upon figures 1 and 2.

To sum up, the present invention comprehends,—

1st. The conception and the means of loading rotating fire-arms, whether shoulder-arms or pistols, at the breech, by employing Lefauchaux cartridges, which dispenses with the various operations of loading, the which have always the inconvenience of being long difficult, above all when it is cold or moist.

2d. The possibility of uncharging the arms without burning the primer, by means of a mechanism which is simple, and costs but a small sum. It is almost impossible to uncharge arms loaded by means of the ramrod; but supposing this to be possible, it is always a long, laborious operation, which is only effected at the expense of ball, which is cut up or divided into fragments, without taking account of the losses and of the deterioration of the powder.

Certificate of Addition of the date of the 9th November, 1854.

It can be seen by the drawing and description which accompany my first application of the date of 15th April last, that the improvements which I have produced in fire-arms consist principally in the employment of a fixed breech employed as a base, and in a mechanical combination permitting the revolver-pistol for many shots and a single barrel to be loaded at the breech.

One remembers that I arrived at this result by means of a groove made upon the side of the breech, and before which each chamber was successively presented by the very act of the rotation of the cylinder or revolver, which permits the introduction into each chamber of a complete cartridge, which it sufficed to place there without its being necessary to employ the ramrod.

The improvements which form the object of the present application consist:

1st. In the addition of a spring acting to hold shut the door which covers the opening made in the breech for the charging of the movable chambers.

2d. In the substitution in place of the small bolt, which acts to push back the cartridge, when one wishes to uncharge the arm, of a kind of small, round ramrod, fitted with a spring, which holds it in its sheath.

3d. In a new mechanical arrangement acting at each cocking of the hammer, and acting to hold the cylinder fast when it is full cocked.

4th. In a system of double bayonet joint, permitting prompt and easy dismounting.

5th. In a new mechanical arrangement permitting, likewise, loading at the breech, but different from that described in my preceding patent, in this, that the hammer acts at the same time to produce the percussion and as the breech.

By this combination I do away with the opening made in the fixed breech for the charging of the movable chambers, and I can make use indifferently of ordinary Lefauchaux cartridges, or of cartridges, the needle of which is placed in the interior, at the bottom of the cartridge case, or behind the ball.

Plate XLIII. Fig. 7, exterior view of a six-shooter pistol, in which the wood which covers the handle is supposed to be removed to permit the spring within to be seen.

Fig. 8, horizontal plan cut below the fixed barrel following the line 1—2.

Fig. 9, view at the butt of the breech.

Fig. 10, view of the face of the movable cylinder or revolver.

One should discover by the simple inspection of these figures the changes which I have made in the pistol which I have given as an example; thus one sees, as I have said, that I have added to the door *h*, whose functions one remembers, the spring *h*¹ which, when one has placed the cartridge and closed the door, engages in the small notch *h*² and by this means fastens the door to the breech.

To open it, it is sufficient to push against the projection *l* of this spring.

This pressure disengages it from the notch, and one can then open the door which permits the introduction of a new cartridge into the chamber which at that time is in line with the opening. •

One sees also that the small bolt is replaced by the ramrod *P*, fitted with a small flat spring, which, by maintaining it in its sheath, hinders it from moving without the aid of the hand.

One knows that in this system of pistol it is sufficient to cock the hammer to cause the cylinder to turn a sixth of a turn, if the pistol is constructed for six shots, as in the case which occupies us, and that it is necessary that, after each of these movements, the cylinder should remain perfectly fixed.

I arrive at this result by lodging in the interior of the breech a mechanism which is composed simply of a pin *R*, fig. 11, fitted with a small head *r*, the which is engaged in an opening made in the breech and directly below the hammer, in such manner that the cue *s*, of the latter, each time that one cocks it, pushes this pin into one of the notches *d*, with which one of the extremities of the revolving cylinder *C* is fitted, that end which bears against the breech as indicated in figure 10.

When one lets down the hammer, on the contrary, the part *s'* retracts the pin, disengaging it from the notch, the which permits the cylinder to turn in order to present a new charge before the fixed barrel *A'* and a new chamber before the opening *h'*.

One remarks that I have replaced the sear spring actually in use by that represented in detail, fig. 9, 12, 13.

The arbor *k*, which connects the handle *B* to the fixed and single barrel *A*, and which acts at the same time as the axis of rotation for the cylinder, is fitted with two small projections *a*, fig. 14.

Upon the enlargement *A'*, the which forms part of the barrel, are arranged two notches *b* of a depth equal to the projections. It is necessary to introduce these projections into these notches, then turn the barrel in order to bring it back in the position indicated fig. 14, to fasten the barrel to the handle.

Figure 15 represents the arrangement which permits me to do away with the door *h*; one sees that it was sufficient for me to make a mortise in the breech pin *C'* by the which I introduce my cartridge, and

the hammer S^2 in striking-upon the projecting needle t of the cartridge, acts at the same time as a breech and base for the latter.

Figures 16, 17, show in section, two systems of cartridges which I propose to make use of, indifferently with those actually in use; they differ from these last in this, that they have no needles appearing on their exterior; one remarks in figure 16 that the needle t is fastened behind the ball T^1 ; in the two cases, by striking the bottom of this cartridge case, one obtains the inflammation by means of the capsule t^2 .

One sees from what precedes, that the present certificate of addition has for its object to secure to my principal patent of 15 April, 1854, the new improvements which I have just enumerated, and which are above all applicable to rotating shoulder-arms and pistols with a fixed breech and a single barrel for many shots.

Certificate of Addition, of the date of 12th May, 1855.

To the last improvements which I have produced in rotating pistols for many shots, and with a single barrel, and which are described in my first certificate of addition, I now add others, which have equally for their object the rendering of these arms at the same time simple and convenient.

These new improvements are of many kinds.

The first consists in the conception and the practical means of loading indifferently revolver pistols at the breech, by the aid of complete cartridges, as has been described in the principal patent, and the last addition, or as well in the chambers, with the powder and the ball, by the aid of the ramrod, as is ordinarily done.

I arrive at this result either by placing a bottom fitted with a nipple, in each of the chambers, or, and better still, by changing the cylinder, and substituting for the cylinder of my system, loading at the breech, an ordinary cylinder.

These pistols for a double purpose will have the advantage of being able to be used as most convenient with complete cartridges; then, if one gets short of them, one changes the cylinder, and one loads with both powder and ball by the upper opening of the chamber.

The second of my new improvements consists in the application to rotating pistols of a particular mechanism of my invention, permitting

the doing away with the cocking of the hammer, which is then done, as well as the percussion, by drawing the trigger of the sear.

The third, in the arrangement of the stop which acts to hold the cylinder fast after each cocking.

Figure 18, Plate XLIII, shows a longitudinal section made through the axis of the barrel of a pistol, fitted with mechanism, by the aid of which one cocks and fires by acting upon the trigger.

Figure 18¹ is a detail upon a large scale.

Figures 19 and 20 represent, in elevation and horizontal plan, this mechanism put together, as well as the stop-piece of the cylinder.

Figure 19 is a detail upon a large scale.

Figures 21, 22, 23, 24, are details of the principal pieces which produce the escapement.

Figure 25 is a face-view of the fixed breech, fitted with the door for the introduction of the cartridges.

Figure 26, a face-view of the cylinder loaded with complete cartridges.

Figure 27, a longitudinal section of an ordinary cylinder, of a size suitable to be placed in place of the first, to load without cartridges prepared beforehand. It is sufficient for that, to unscrew the barrel *A*, and to place between the breech *B* and this last, one or other of the cylinders *C* or *C*¹.

It is well understood that this screw arrangement can be replaced by a bayonet joint, without, for that reason, departing from the invention, which consists in the conception of rendering pistols of my system — loading at the breech — susceptible of being loaded in the ordinary manner.

The rear mechanism of which I likewise claim the ownership, as arranged and applied to this kind of arm, loading at the breech, consists of the forked sear-piece *a*; it is fitted with a tooth *b*, which acts upon a similar tooth *d*, formed upon the lower part of the hammer *D*. This last is fitted with a friction wheel *c*, upon which the tensive force of the flat spring *E* operates.

A small piece *e*, which I call *barrier*, seen in detail figs. 21, 22, carries likewise a small tooth *f*, which enters in the hollow *g* of the piece

a, figs. 24, 24¹; these two pieces are mounted separately in a respective groove, and retained by a pin upon the trigger, properly called *F*.

This trigger, which oscillates upon the centre pin *h*, when one draws it back by the aid of the finger, is pushed back into its first position by the flat spring *G*; its oscillation operates upon two small supports *i* and *j*; the second figures 19, 20, present a stationary part of a curved form, in which moves a small projection *k*, figures 19, 20, 21, with which the barrier *c* is furnished, in such manner that when one acts upon the trigger to draw it back, one puts in motion at the same time the piece *a*, retained in its groove by the pin *l*, and the barrier *c*, which disengages the piece *a* at a given time. The effect is produced as follows: by drawing the trigger, the hammer is carried backwards by the tooth *b* of the piece *a*; during this time the barrier which holds this piece by means of its tooth *f*, figure 21, and which moves likewise with the trigger, meets by its projection *k*, the curved extremity of the support *j*; this latter then forces the barrier to make a movement backwards in compressing the small spring *m*, figure 21, which disengages the piece *a* and in consequence, the hammer, which being no longer retained by the tooth *b*, is forced back strongly by the large spring *E*, and by this act, in falling rapidly, produces the necessary percussion.

The piece *a* retakes its first position by the aid of a small pin *n*, figure 24, fastened to it; this pin slides laterally upon the piece *H*, when the trigger returns to its ordinary position of rest.

The movement of the stop is very simple. It consists simply in the addition to the upper part of the trigger of a pin *o*, which enters in the fork of the stop *g*.

It is lastly for the hammer, fixed with the trigger, and its extremity protruding at the upper part, to be arrested by the small projections *g*, with which the fork of the stop is furnished, figure 24.

The purpose of the stop is to hold the hammer object to guarantee to the percussion the same force, and to avoid any irregularities.

1st. Drawing the hammer back in the ordinary manner.

2d. The second arm of the hammer, raised by the spring, and application of the finger to the curved extremity of the stop, by drawing the trigger without rocking it.

3d. The system of the stop of the cylinder





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